Assessment of Family Satisfaction with Remote Communication for Critically Ill COVID-19 Patients: An Observational Cohort Study

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Abstract

Background: During the pandemic, traditional family meetings were replaced by remote telecommunications. We assessed the families' satisfaction with these communications using a survey-based questionnaire.

Methods: The study involved 20-minute telephonic surveys conducted with the family member who was updated during the hospitalization of the patient. A thematic-based questionnaire with responses on a scale of 5 ranging from very dissatisfied to very satisfied was used. The responses were dichotomized into bad and good reports for analysis.

Results: A total of 196 patients were eligible. Only 154 patients' family representatives consented to the study. The frequency and content of the telephonic updates were satisfactory. The bad report was assigned to 5% of families only. Among features assessing empathy of communication providers, the satisfaction rate was much higher with 3% of families alone providing a bad report. The response was significantly biased against the final outcome of the patient with poor review often provided by relatives of patients who had succumbed to the illness. The dissatisfaction rate was much higher, above 12% for the trust of communication and ICU visitation. However, the final outcome of the patient did not affect the trust in the information conveyed by the physician.

Interpretation: This study highlights several drawbacks in the communication strategy during the second surge of coronavirus disease-2019 (COVID-19). The final outcome of the patient was the key decisive factor for the response to most of the questionnaire. Sustained faith in communication by the physician despite the final outcome of the patient, re-emphasizes the need for emotional connection and training for breaking bad news.

Keywords: Communication, Coronavirus disease-2019, Empathy, Intensive care unit visitation, Trust, Satisfaction. *Indian Journal of Critical Care Medicine* (2023): 10.5005/jp-journals-10071-24504

HIGHLIGHTS

The survey not only looked at objective parameters such as the number of calls, and the number of audio, or visual aid used during the update but also at emotive responses like empathy and trust in the communicating physician. The results of the study lay a foundation for future preparedness for better communication during an emergency.

INTRODUCTION

Background

Being critically ill causes anxiety and stress to the patient, to the extent of precipitating postintensive care syndrome (PICS).^{1,2} While its impact on the patient is well understood, the effect on the patient's family may be overlooked.³ Several global studies have estimated the risk of family members developing postintensive care syndrome-family (PICS-F).^{4–6} The recognition of PICS-F has encouraged ICUs to practice family-centered care, inclusive of family members in patient care.⁷ This permits them to spend longer periods with the patient and interact with healthcare professionals along with reducing the incidence of posttraumatic stress disorder (PTSD) symptoms.^{8,9} Despite robust evidence favoring family-centered care with minimal risk of nosocomial infection, most ICUs have restricted visitation policy.^{7,10–14}

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Objective

In India, no standardized guidelines on family visitations have been laid down.¹⁵ With the outbreak of coronavirus disease-2019 (COVID-19), hospitals restricted family visits to the ICUs as well as family's presence in the hospital to curb virus outbreak. Due to the overwhelming nature of the pandemic, critical care providers along with physicians from other specialties were redeployed in critical care services. Our hospital, incorporated family-centered care elements

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throughout, until the number of COVID-19 cases became significantly high.¹⁶ After this, family updates were largely virtual. Direct visits were only permitted for very sick patients or when family requested for one. Family visits were limited to a maximum of two per day per patient. All visitors were required to wear personal protection equipment (PPE). The relatives were offered video communication twice a day using an internet video calling device to see and interact with the patient. However, only audio communication was possible for a few relatives who did not have access to video calling devices and for patients who were deeply sedated.

Our hospital did not have a dedicated professional or a team to perform this function.

Family satisfaction is a key indicator for quality of care.¹⁷ However, its importance during the pandemic has not been adequately studied.

In this study, we aim to measure the quality of telecommunication offered to family members of patients admitted to COVID-19 ICUs at our institute during the second surge of the COVID-19 virus outbreak. The objective of this study is to identify shortcomings and indicators for improved communication strategies.

Methods

Study Design and Setting

A prospective survey was performed by interviewing the family members of patients admitted to 8 COVID-19 ICUs (104 beds) for more than 24 hours from 1 May 2021 to 30 June 2021.

Participants, Variables, and Bias

For this study, contact details were obtained from the electronic medical records. The primary family member, who maintained contact with the ICU physician, was identified and selected for a one-time, structured, telephonic interview.

The data on the eventual outcome of the patient was available to the interviewing investigators to avoid surveying questions related to the functional status of patients after discharge from the hospital.

The interview was conducted by a neutral coinvestigator, who had no prior involvement with patient care or any previous family interaction. This helped avoid bias in the responses collected.

Data Sources/Measurement

Each interview lasted 20–30 minutes. The neutral coinvestigator read out the study information sheet and obtained verbal consent for the interviewee's participation and recorded the entire phone survey. The interviewer read out the survey questionnaire and simultaneously recorded the subject's responses into an electronic data entry sheet. The audio file, along with the digital data entry, was saved on a password-protected computer.

Study Size

A total of 196 subjects, who fulfilled the inclusion criteria, were selected for the survey. All these subjects had family members who had suffered from severe COVID-19 acute respiratory distress syndrome (ARDS) and had required more than 24 hours of stay in the ICU. Patients with missing family contact records and those who did not consent were excluded from the survey.

Statistical Analysis

Quantitative Variables

A survey questionnaire was developed by the investigators with input from a psychology professional (Table 1). The survey

questionnaire consisted of thematic subgroups regarding family member's sociodemographic details and relationship to the patient, the patient's physical status after treatment, access to communication devices, the frequency of communication received, quality of information, empathy in communication, trust in communication, and direct ICU visitations. Each theme surveyed the overall quality of each subgroup, on a scale of 1 to 5, with "1" representing "very dissatisfied" and "5" "very satisfied".

Analytic Approach

The sociodemographics of the family members and the eventual outcome of the patients were tabulated. The response to the satisfaction associated with each thematic question was analyzed with statistical package for the social sciences (SPSS), version 26, and represented in pictographic form (Highlighted in black font depicts bad response). The responses were cross-tabulated and analyzed with the use of Pearson's Fisher's Exact test. For the purpose of statistical analysis, responses—fair, satisfied, and very satisfied were grouped together, and dissatisfied and very dissatisfied into another group.

RESULTS

The family members of 154 patients admitted to eight ICUs in our institution had consented to participate in the study. Of these, 86 (55.84%) were discharged from the ICU. The final outcome while in the ICU or after leaving the hospital is shown in Table 2.

A total of 42 (21.32%) family members of the 196 study subjects declined to participate in the survey citing personal issues. Among the subjects that refused, 61.9% (26/42) were family members of patients that did not survive the illness. Telephone interviews were conducted with the remaining 154 family members who consented to the study.

Various reasons for not consenting predominantly involved, not wishing to recall past traumatic experiences 57.14% (24/42), lack of time 54.8% (23/42), unhappy with the quality of care 11.9% (5/42) and one declined on account of the rude behavior of the medical team.

The socioeconomic demographics of the respondents were recorded to evaluate if this affected the responder's judgment (Table 3).

All family members of patients admitted to the ICUs were offered video interactions twice a day; however, 14.94% (23/154) did not have access to any video calling device.

Response to the Questionnaire

Frequency of Calls

When asked about the frequency of calls, only 7.74% of the family members expressed their dissatisfaction. Even though video calls were planned twice a day, only 20.78% received 2 or more video calls a day, while the majority (59.09%) received only one video call a day. There were 28 family members who claimed that they had not received any video calls. However, audio communication was regular, with 95.45% of caregivers receiving at least one audio call a day. Most of the respondents (90.91%) felt that the time given to ask questions and clarify their doubts was sufficient, but 9.9% felt it was insufficient. The final outcome of the patient and mode of communication, visual or audio affected the satisfaction of telecommunication (Table 4). Social factors such as level of education of the respondent did not affect the satisfaction rate.



Table 1	: Survey questionnaire									
Access	Access to the communication devices									
A1	What was the mode of communication available to you for communicating with the ICU?	Audio and video calls	Only audio calls							
Frequency of the communication										
B1	How often did the ICU doctor conduct audio calls?	None	Once a day	Twice a day	Thrice a day					
B2	How often did the ICU doctor conduct video calls?	None	Once a day	Twice a day	Thrice a day					
B3	What is your overall satisfaction with the number of communications conducted?	Very dissatisfied	Dissatisfied	Fair	Satisfied	Very satisfied				
Under	standing the information									
C1	How would you rate the local language skill used by the doctor to communicate with you?	Very poor	Poor	Fair	Good	Very good				
C2	How would you rate the sufficiency of information given regarding the medical condition of the patient?	Very poor	Poor	Fair	Good	Very good				
C3	How would you rate the time given to you to ask questions and clear doubts?	Very poor	Poor	Fair	Good	Very good				
C4	Did you feel the need to ask more doubts when you were given bad news?	Never	Rarely	Sometimes	Often	Very often				
C5	Were you satisfied with shorter communi- cation time if the patient was improving?	Never	Rarely	Sometimes	Often	Very often				
C6	Did you prefer having a family member or friend present during the doctor's communication? (Social support)	No	Maybe	Sometimes	Yes	Very often				
C7	Was the patient condition information given to you consistently? (Consistency of information)	Never	Rarely	Sometimes	Often	Very often				
C8	How would you rate your overall experience regarding the medical information the doctor had given?	Very dissatisfied	Dissatisfied	Fair	Satisfied	Very satisfied				
Empa	thy in the communication									
D1	Did the communicating doctor always have a friendly(approachable) attitude?	Never	Rarely	Sometimes	Often	Very often				
D2	Did you find it easier to ask doubts and questions when the doctor has a friendly attitude?	Never	Rarely	Sometimes	Often	Very often				
D3	Did you experience any anger or rude behavior from the doctor?	Never	Rarely	Sometimes	Often	Very often				
D4	How would you rate your satisfaction with the empathy of the doctor?	Very dissatisfied	Dissatisfied	Fair	Satisfied	Very satisfied				
Trust in the communication										
E1	Did you always feel that the doctor cared about the patient?	Never	Rarely	Sometimes	Often	Very often				
E2	Did you ever feel the doctor was withholding any information?	Never	Rarely	Sometimes	Often	Very often				
E3	Did you always feel the medical team was treating all patients and their family members equally?	Never	Rarely	Sometimes	Often	Very often				
E4	What is your overall satisfaction with the trust in your ICU doctor's communication?	Very dissatisfied	Dissatisfied	Fair	Satisfied	Very satisfied				

(Contd...)

Table 1: (Contd)										
Visitat	Visitation and in-person communication									
F1	Are you aware of why direct COVID ICU visits were restricted?	Yes	No	Maybe						
F2	Did you fear contracting COVID-19 by visiting the ICU?	Yes	No	Maybe						
F3	Were you able to visit the patient in the ICU?	Never	Rarely	Sometimes	Often	Very often				
F4	Were you able to directly converse with the ICU doctor?	Never	Rarely	Sometimes	Often	Very often				
F5	Did direct ICU visits help you better understand the medical condition of the patient?	Yes	No	Maybe						
F6	Were you offered appropriate PPE for making safe ICU visits?	Yes	No	Maybe						
F7	What is your overall satisfaction with the ICU visitation?	Very dissatisfied	Dissatisfied	Fair	Satisfied	Very satisfied				

The condition of the discharged patients after leaving the hospital	n	%
Returned to the original level and employment with no disability	35	40.70
A minor disability that does not interfere with daily functioning	36	41.86
A significant disability that interferes with daily functioning or work	10	11.63
Severe disability rendering the Patient totally dependent (requiring continued treatment at the same or different hospital)	0	0
Demise after discharge from hospital	5	5.81
Total	86	100
The outcome of the patients admitted to the ICU	n	%
Demise	68	44.16
Discharged from ICU	86	55.84
Total	154	100

Table 3: Socioeconomic demographics of responders of the survey

	Ν	%
Gender		
Male	57	37.01
Female	97	62.99
Age (years)		
18–30	40	25.97
31–60	108	70.13
>60	6	3.90
Relation		
Children	39	25.32
Sibling	25	16.23
Parent	6	3.904
Spouse	66	2.86
Distant relative	18	11.69
Education		
Primary school	8	5.19
High school	43	27.92
Undergraduate	76	49.35
Postgraduate	27	17.53

Quality of Information

When asked about the quality of information communicated to them, 9.09% of subjects described dissatisfaction while 24.03% described their experience as just fair. There were some respondents (8.44%) who highlighted the poor local language skills of the communicating physician. A majority of family members (59.74%) expressed the desire to ask more questions when they were given news of the worsening clinical status of their patients. The study showed that 67.53% of families were satisfied with shorter communication. Caregivers of deceased patients were likely to be dissatisfied (Table 4).

There were 3 (1.95%) respondents who experienced inconsistency in the information communicated regarding the clinical condition of their patient. Figure 1 depicts the satisfaction rate for the various elements of information provided.

Empathy

Figure 3 represents the responses assessing empathetic approach of the caregiver during communication. Most caregivers (61.04%) described the conversation with the physician to be amenable and approachable. While 27.92% of the respondents felt the same only sometimes, and 5.84% felt it was a rare characteristic. There were 3 respondents (5.19%) who felt that the physician was neither friendly nor approachable. Further, 63.64% of subjects reported it was easier to ask questions and clarify doubts when the treating physician had a friendly attitude. There were 2.6% (4/154) and 9.74% (15/154) respondents respectively who "often" or "rarely" felt that the communicating doctor's conversation was rude. Six respondents (3.9%) described that they had felt an overall lack of empathy from the communicating physician.



The patient's final outcome or respondent's educational level did not influence the evaluation.

ICU on rare occasions, while almost one-third of family members (49/150) did not visit their patient in the ICU at all.

Trust in Communication

There were four respondents who felt that the doctor did not care enough for their family members. Further, 8.44% (13/154) and 12.34% (19/154) of the respondents respectively felt that "often" or on "rare" occasions the communicating physicians were not honest with them or had withheld medical information from them. There were some respondents (7/154; 4.55%) who perceived an inequality in patient care. Figure 3 depicts the satisfaction rate on the trustworthiness of telecommunication. The final outcome of the patient did not affect the trust of the respondent in the communication given by the treating physician (Table 5).

The various facts that emerged from the survey about ICU visitation policy (Fig. 4) included that only 4% were aware of the true reason for the restriction. A quarter of the respondents feared and 20.78% (32/154) had doubtful fears of contracting COVID-19 illness by visiting the ICUs. Less than a quarter 22.73% (35/154) visited the

	Fair/satisfied		Diss	atisfied	
	n	%	n	%	p-value
Final patient outcome					
Demise	59	42.45	14	93.33	
Discharged	80	57.55	1	6.67	0.001
Education					
College degree	96	69.06	7	46.67	
Without college degree	43	30.94	8	53.33	0.080
Mode of communication available					
Only audio	18	12.95	5	33.33	
Audio and video	121	87.05	10	66.67	0.035



Fig. 1: Satisfaction rate for elements of information



Figs 2A to C: The various aspects of empathy in telecommunication surveyed. (A) The amenable and approachable character of the communicating physician; (B) Angry or rude behavior of the communicating physician; (C) Empathy in the communication



Fig. 3: Trust in the communication

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	Fair/so	atisfied	Diss	atisfied	
	n	%	n	%	p-value
Final patient outcome					
Demise	60	44.78	13	65.00	
Discharged	74	55.22	7	35.00	0.091
Education					
College degree	90	67.16	13	65.00	
Without college degree	44	32.84	7	35.00	0.848
Mode of communication av	ailable				
Only audio	18	14.94	5	25.00	
Audio and video	116	85.06	15	75.00	0.176



Fig. 4: The ICU visitations

When able to visit the ICU, 82.29% (79/96) respondents were able to understand the condition better after discussing it with the treating physician. Only seven respondents were unable to meet a doctor at an ICU visit.

Very few (2.08%) caregivers complained about the personal protective gear provided for ICU visitation. Overall, limited ICU visitations proved to be the most dissatisfying experience for most of the respondents (12.99%).

The data collected on the frequency of ICU visits could not be cross-analyzed due to the inconsistency in the permitted visits. The direct ICU visits were permitted on a case-to-case basis influenced by the patient's prognosis.

The Eventual Outcome of the Patient

In the dichotomous evaluation of the results, there was an average of 5% bad report for most of the components of the survey except trust in communication and ICU visitation (>12%).

The eventual demise of the patient led to dissatisfied feedback in almost all thematic aspects of the interview. Approximately 86% (12/14) negative feedback on medical content of communication, 75% (5/7) for communicating physician's empathy, 65% (13/20) for the lack of trust, and 60% (12/20) for ICU visitations were all provided by family members of deceased patients. Hence, this was the single factor influencing the satisfaction of telecommunication during the pandemic.

DISCUSSION

The traditional family updates in our institute include physician conveying the medically relevant information and additional communication regarding hospital proceedings being offered by social workers. We do not have any standardized communication protocol, and individual specialty ICUs have minor differences in their approach to communicating information to family members.

However, as with health facilities across the globe, COVID-19 mandates to limit ICU visits and direct communication disrupted our traditional practice.¹⁸ During the period of the surge in the virus outbreak, we limited communication to once-a-day phone calls to the family and twice-a-day virtual ICU visits as was the updated recommended practice.¹⁹ The study by Montauk and Kuhl identified that the limited ICU visitations during the pandemic were traumatic to the family members and was the greatest challenge experienced by them.²⁰ However, the need for family members to have direct conversations with the medical team, to gauge the situation of their patient and receive honest information from the physicians has been highlighted by Mckiernan and McCarthy²¹ Visiting the ICU enables family members to demonstrate their support and bond for the patient, and allows the medical team to provide reassurance and validate their sincerity to establish trust.²¹ While virtual visits enabled update geographically distant relatives, making it an appealing option; it came with many flaws. The absence of support staff during counseling was found to be a big handicap.²²

In our study 14.94% (23/154) of respondents did not own video devices. Thus, they were at a disadvantage, unable to see their loved ones during their time in the ICU. However, this did not interfere with the overall family satisfaction. We also found that the family's level of education did not affect their appreciation of the communication, which reflects the clinician's ability to convey medical information. In contrast, Fathallah et al., during a survey-based assessment of family satisfaction in ICU in non-pandemic times, found literacy level to be the most influential. They propose difficulty to accept stressful state among the illiterate to be the cause.²³

Our results are in comparison to existing literature with an average of 5% dissatisfaction for aspects like quality of information, empathy of physician communicating information, and trust in the content of information.²⁴ The exception was the ICU visiting policy which had a relatively higher 12% dissatisfaction. This could have been due to the inability to have virtual visits for many families and in-person visitations reserved for very sick patients. In contrast to

our findings, Fathallah et al. did not find not allowing bed visits, a deterrent in family satisfaction.²³

Among the subjects who had declined to participate in the survey, 11.9% (5/42) did so because they were unhappy with the quality of care, and one of the participants cited perceived rude behavior of the medical team. This data reinforces the need to focus on physician communication skills and ensure better family satisfaction through uniform communication guideline.

The ICU mortality at our center during the second surge of the pandemic was 50.25%, significantly higher than the 28.8% mortality reported during the second wave in some developed countries.²⁵ The inadequacy of sufficient healthcare infrastructure made it difficult to meet the needs of a large number of critically ill patients. Only patients with severe illness were admitted into the ICUs, at which stage it was too late for many. The eventual demise of the patient had a strong association with poor approval of the number of phone calls and quality of information. It is reassuring to find that demise of the patient did not affect their trust in the clinicians and recognition of their empathy toward the family. In contrast, Reddy et al., with a lower participation response of 32.2% in comparison to our 78.57%, found patient's demise during hospitalization did not affect a family member's response to the survey.²⁶

The shortage of medical professionals during the second surge of covid led to the redeployment of many non-intensivists without proper training for counseling. Hence, the treating physicians were tasked with the additional responsibility of incorporating both patient and family care duties. This may explain the major lacunae in meaningful communication which was the inability to provide time for respondent's questions and more descriptive answers on the medical status of the patient. Fritz et al. performed a similar study surveying patients' surrogate decision makers and providers. They reported similar feelings regarding the adequacy of the information. Unlike our study, they had only once-a-day telecommunication for want of time away from patient care. Greater frequency of calls was found to be the most wanted by the caregivers. This study did not evaluate emotive responses as empathy and trust.²⁷ A qualitative study by Hochendoner et al. collecting data from family members of COVID-19 ICU patients at ten U.S. hospitals described their three most valued communication principles to be direct contact, consistency, and compassion.²⁸

Lopez et al. had an established family liaison team (FLT) comprising of external redeployed providers not involved in patient care. This team was to interact, counsel, and communicate medical information to the family members. As this team did not have clinical responsibilities, they were able to delegate sufficient time to family communication.²⁴ The collaboration and integration of this external team did have efficiency issues; however, their importance was reflected in their ability to focus on communication, and to attend to family needs, especially for those nearing the end of life. This strategy of a dedicated communication team was associated with increased family satisfaction.²⁴

The incorporation of communication bundles and protocols along with appropriate training of physicians to counsel and incorporate elements of family-centered care have been proposed by several studies and can ensure better family satisfaction.²⁹

In our study, several family members of patients admitted to the ICU were not permitted to make any direct ICU visits. These patients had a good prognosis and were eventually discharged from the ICU. Relaxation of ICU visitation rules was made only for those patients who had a poor prognosis. The data collected at another center by Camões et al., although not statistically significant, showed higher satisfaction with information consistency among family members who were able to make direct ICU visits.³⁰ Chanchalani et al., studied the visiting and communication policy in ICUs during the pandemic across South Asia and Middle East.³¹ In this survey health care practitioners (HCP), mostly ICU consultants found the altered communication process during COVID-19, a challenge and highly dissatisfying. The process of consent taking too was found by the families to be less clear than in- person's procedure and wanting in terms of medico–legal repercussions by the HCP. Our study differed to look into the family's viewpoint of communication satisfaction than the HCP and legal aspect.

Limitations

The rapid redeployment of providers from other specialties to meet the needs of the severe situation of the second surge made it challenging to ensure training in communication and counseling tasks. The lack of counseling guidelines and uniformity in the communication skills of the physicians may have influenced subject responses.

It is also possible that the eventual demise of the patient had a significant negative recall bias. This bias may have affected the reliability of the interview responses.

CONCLUSION

Our study revealed several shortcomings in our communication practices during the second surge of COVID-19 pandemic. The study subjects' opinion was clearly swayed on the basis of the prognosis of the patient with greater compliance if the patient survived the illness. Despite the poor outcome of many patients, the faith and emotional connection with the treating team held well. This suggests the importance of providing communication that is not merely the transmission of medical information. Our experiences reflect the need to demonstrate a better emotional connection with the patient's family members. Hence, we recommend employing additional dedicated personnel with good communication skills and clinical awareness.

The implementation of a communication bundle or protocol could ensure better completeness of the information given to the family. Training redeployed physicians from other specialties in family communication and telemedicine may help them to deal with such circumstances in the future. Including nurses and social workers in the communication team could help improve and bolster the communication strategies.

We also recommend direct in-person daily communication with the use of appropriate infection control measures to improve family compliance. Silence in a phone conversation can mean many things; its interpretation is tough and is often misinterpreted as not being heard or lacking interest. A voiceless emotion needs to be seen and respected.

AUTHORS' CONTRIBUTIONS

All the authors have contributed equally.

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