



Survey on the effectiveness of telephone-based communication with relatives of hospitalized cancer patients in COVID-19 era in Italy

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Abstract

Objective No-visitor policies adopted to prevent coronavirus disease-19 (COVID-19) spread in hospital wards have deeply impacted communication with patients and their relatives. Whereas in pre-COVID-19 era family-clinician meetings were held in person, during the pandemic interactions often took place over the phone, frequently causing feelings of uncertainty and distress to the close ones at home. The goal of this study was to assess and improve the effectiveness of structured telephone-based communication with hospitalized onco-hematological patients' relatives in COVID-19 era.

Methods After no-visitor policy was adopted in the Onco-Hematological Unit of Modena, inpatients' relatives were contacted daily for clinical updates. After discharge, a telephone satisfaction survey was administered to all contact people of patients consecutive admitted between December 2020 and January 2021 ($n = 97$). Mean score of response and potential statistically significant differences depending on respondents' characteristics were assessed.

Results Most relatives were satisfied with the communication received with a mean total score of 4.69 on a 5-point Likert scale (standard deviation: 0.60). Results showed high satisfaction rate with both the informative (mean \pm SD: 4.66 ± 0.64) and emotional (mean \pm SD: 4.66 ± 0.58) content, with no significant difference depending on respondents' demographic characteristics ($p > 0.05$).

Conclusion A structured telephone-based communication may be a reasonable substitute for face-to-face meetings; especially if regular in time, conducted by the same doctor and integrated with video calls. Our findings might assist health workers in implementing measures to minimize the psychological effects of no-visitor policies during hospitalization. Clinical updates delivery through structured phone calls and video calls could become an opportunity also in post-COVID era.

Keywords Cancer · COVID-19 · Communication

Introduction

Communication represents a crucial task in the professional life of a clinician, especially for those who work with life-threatening illnesses. In these cases, the creation of an effective dialog can be a challenging topic that clinicians face daily. In the last decades, clinical communication has been widely investigated and several structured approaches have been developed and proposed [1, 2].

Moreover, communication with seriously ill patients is often triadic rather than dyadic, involving not only the provider and the patient, but also families, which are often the primary support unit, a vital part of the healthcare team and essential to their relatives' well-being [3, 4]. The way physicians deal with family members and/or caregivers can empower the relationship with the patient and help with the care process, reinforcing the doctor's message and giving important clues about clinical and personal history. Compared to studies on patients' preferences, little is known about relatives' perspectives on interaction with health-care providers [5–8]. However, understanding how to improve communication in this field is vital to support all parties involved in the care process and improving their outcomes. More specifically, in an oncological ward, the family represents an important point of connection between clinicians

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and inpatients. In this setting, high levels of depression and caregiver's burden were registered among relatives of hospitalized cancer patients [9]. Targeted interventions in this field may therefore improve both patients and their families' quality of life.

The global crisis driven by the outbreak of coronavirus disease 2019 (COVID-19) has caused unexpected and challenging situations. Physical barriers and no-visitor policies have deeply impacted communication in the hospital setting and new strategies are needed for physicians to preserve connection with patients and their relatives [10].

Whereas in pre-COVID-19 era family-clinician meetings were held in person in predefined moments, during the SARS-CoV-2 pandemic interactions often took place over the phone. In this unprecedented situation, the frequently unilateral direction of the communication might cause feelings of uncertainty and distress to those who are at home and must wait for news to come [11]. Furthermore, the relatives of critically ill patients are already at increased risk of anxiety, depression, or post-traumatic stress disorder (PTSD) [12]. In addition, losing nonverbal cues, such as eye contact, posture, and gesture, makes it more difficult to bond and establish empathy between the communication provider and the relative involved [13].

In order to address common barriers to successful conversations when physical distance is necessary, different solutions were proposed: video calls through smartphones and tablets were introduced [14] and many step-by-step frameworks, some specific to COVID-19, were developed [15–17].

After the SARS-CoV-2 outbreak, in our onco-hematological department—as in many others—a decision to temporarily suspend visits to inpatients was made and clinicians started to communicate by telephone or video. Of note, relatives' thoughts and feelings about the new communication standards adopted during the pandemic have not been explored so far. This research was born to assess for the first time the effectiveness of a telephone-based communication strategy in COVID-19 era and aims to empower it through dialog and cooperation with patients' families.

Methods

All relatives of cancer patients consecutively admitted to our onco-hematological ward between December 2020 and January 2021 were enrolled in this study. Inclusion criteria required that each participant was the adult contact person of a patient with a cancer diagnosis hospitalized in the Onco-Hematological Unit of Centro Oncologico Modenese between December 2020 and January 2021.

After no-visitor policy was adopted, we started creating space and time for structured daily phone calls with patients'

families to give them clinical updates. All of them were called at the same time each day, from Monday to Friday.

In the first call, we verified the level of information about the underlying onco-hematological disease and discussed as clearly as possible the cause of the hospitalization and the disease stage. In the following calls, updates were given, and therapeutic goals were discussed. Finally, when possible, we faced problems related to discharge and the possibility of returning home, taking into consideration caregiving, logistic, and social aspects. Throughout this process, providers not only paid attention to the information delivery, but also to the emotional component. Additionally, we offered the chance to see the patient through video calls with smartphones provided by the hospital.

Within 3 weeks from patients' discharge or death, contact relatives were called and engaged in a phone survey designed to assess their level of satisfaction with the communication received and suggestions to possibly improve its quality.

The survey was modified from EORTC QLQ-COMU26 questionnaire for cancer patients [18]: the 26-item instrument, with response format of a 5-point Likert scale (1 = not at all; 2 = a little; 3 = partially; 4 = quite a bit; 5 = very much), has been developed by the European Organisation for Research and Treatment of Cancer (EORTC) Quality of Life Group (QLG) for the measurement of different issues related to the communication between cancer patients and their health care professionals. As Table 1 shows, given the urgency of this situation and the lack of questionnaires that assess relatives' preferences in this unprecedented context, we adapted patient-specific EORTC QLQ-COMU26 to develop an instrument to evaluate families' satisfaction with the communication received during the patient's hospitalization period. For this reason, we deleted from the original EORTC instrument the questions that did not apply to a phone communication (e.g., “did the doctor look you in the eye?”) and added four new elements (items 4, 5, 11, 12) to meet the need of exploring communication with patients' families in a onco-hematological ward setting.

Our survey can be divided into 2 scales and 2 individual items:

- Scale 1 (items 1, 2, 3, 4, 5, 6, 7, 10), designed to explore the professional's communication skills;
- Scale 2 (items 8, 9, 11), designed to evaluate the professional's ability to create a relationship with patients' relatives and manage their emotions;
- Item 12, designed to assess the satisfaction rate with regard to the received phone call;
- Item 13, that allowed us to ask for comments about the received communication and suggestions for its improvement. Open-ended responses were then categorized based on the common themes that emerged.

Table 1 Survey items

| | |
|----|--|
| 1 | Have you been called by our medical staff for updates about your relative's health condition? |
| 2 | Did our medical staff spend enough time talking to you? |
| 3 | Was the doctor easy to understand and answered to every question? |
| 4 | Was the information you received clear? |
| 5 | Did they explain to you the acute problem that led to hospitalization? |
| 6 | Did they check your previous level of information about your relative's onco-hematological illness? |
| 7 | Did they clarify disease stage and therapeutic aims? |
| 8 | Did the doctor make it easy to talk openly about your concerns? |
| 9 | Did you have the opportunity to express your emotions? |
| 10 | Did you feel listened to? |
| 11 | Did the doctor plan with you the discharge and consider potential problems related to the return home? |
| 12 | Were you pleased to receive this phone call? |
| 13 | Comments and suggestions |

To reduce interviewer bias, the phone survey was administered by clinicians who never assisted the patient. Oral consent was obtained before asking questions. The survey is part of a hospital audit program; therefore, approval of the ethics committee was not necessary.

Common demographic features, such as age, gender, level of education, nationality, and relationship status with the patient, were collected to describe the interviewed population. Mean score and percentage of responses were calculated for each statement. We used chi-squared test to detect potential statistically significant differences depending on demographic characteristics. We considered exact Fisher's test *p* value. A *p* value < 0.05 was established as statistically significant.

Results

Between December 2020 and January 2021, a total of 495 phone calls were made by 8 clinicians. Seventy-nine percent of the calls took place between the same professional and the patient's contact person.

The survey was administered to a total of 97 onco-hematological patients' relatives. One hundred percent of the people involved accepted to answer the survey. Respondents' demographic characteristics are described in Table 2. The age range of the participants was 22 to 75 years, with a mean of 51 years (standard deviation = 11 years). The majority were Italian (92 out of 97, 95%) females (60 out of 97, 62%). Seventy-two out of 97 (74%) had a high school or university degree. Most respondents were patients' partners (42%) or sons/daughters (43%).

Patients were affected by all cancer types and stages of disease progression and had different performance status. Respondents were not necessarily caregivers. Relatives were called independently of the outcome of the hospital stay: 59

Table 2 Respondents' profile (*N*=97)

| Age | |
|---|----------|
| Range | 22–75 |
| Mean (SD) | 51 (11) |
| Gender | |
| Female | 60 (62%) |
| Male | 37 (38%) |
| Level of education | |
| Primary and secondary school | 25 (26%) |
| High school and university | 72 (74%) |
| Nationality | |
| Italian | 92 (95%) |
| Not Italian | 5 (5%) |
| Relationship status with the patient | |
| Partner | 41 (42%) |
| Daughter/son | 42 (43%) |
| Other (other family member, friend) | 14 (15%) |

patients were discharged, 25 died during hospitalization, and 13 were transferred to another hospital ward.

As Table 3 shows, most relatives contacted during the patients' hospitalization were satisfied with the communication received, with a mean score of 4.69 on a 5-point Likert scale (standard deviation: 0.60).

Ninety-three relatives out of 97 (96%) referred that the doctor was easy to understand and 96 out of 97 (99%) stated that the given information was clear. Most respondents were satisfied with the updates they received about the acute problem that led to hospitalization (93 out of 97, 96%), disease stage, and therapeutic aims (90 out of 97, 93%). In 5 cases out of 97 (5%), clinicians did not verify what the relative knew about the patient's underlying onco-hematological illness. Most people felt comfortable talking about their concerns (96 out of 97, 99%), felt listened to (94 out of 97, 97%), and free to express their emotions (91 out of 97,

Table 3 Feedback scores for all responders ($N=97$)

| Question | Mean \pm SD | 1 | 2 | 3 | 4 | 5 |
|--|-----------------|--------|--------|--------|----------|----------|
| 1. Have you been called by our medical staff for updates about your relative's health condition? | 4.79 \pm 0.46 | 0 | 0 | 2 (2%) | 16 (17%) | 79 (81%) |
| 2. Did our medical staff spend enough time talking to you? | 4.70 \pm 0.62 | 0 | 1 (1%) | 5 (5%) | 16 (17%) | 75 (77%) |
| 3. Was the doctor easy to understand and answered to every question? | 4.77 \pm 0.51 | 0 | 0 | 4 (4%) | 14 (15%) | 79 (81%) |
| 4. Was the information you received clear? | 4.74 \pm 0.46 | 0 | 0 | 1 (1%) | 23 (24%) | 63 (75%) |
| 5. Did they explain to you the acute problem that led to hospitalization? | 4.64 \pm 0.63 | 0 | 2 (2%) | 2 (2%) | 25 (26%) | 68 (70%) |
| 6. Did they check your previous level of information about your relative's onco-hematological illness? | 4.31 \pm 0.95 | 5 (5%) | 0 | 3 (3%) | 41 (42%) | 48 (50%) |
| 7. Did they clarify disease stage and therapeutic aims? | 4.59 \pm 0.63 | 0 | 0 | 7 (7%) | 26 (27%) | 64 (66%) |
| 8. Did the doctor make it easy to talk openly about your concerns? | 4.81 \pm 0.42 | 0 | 0 | 1 (1%) | 16 (17%) | 80 (82%) |
| 9. Did you have the opportunity to express your emotions? | 4.63 \pm 0.64 | 0 | 1 (1%) | 5 (5%) | 23 (24%) | 68 (70%) |
| 10. Did you feel listened to? | 4.73 \pm 0.59 | 0 | 2 (2%) | 1 (1%) | 18 (19%) | 76 (78%) |
| 11. Did the doctor plan with you the discharge and consider potential problems related to the return home? | 4.54 \pm 0.63 | 0 | 1 (1%) | 4 (4%) | 34 (35%) | 58 (60%) |
| 12. Were you pleased to receive this phone call? | 4.98 \pm 0.14 | 0 | 0 | 0 | 2 (2%) | 95 (98%) |

94%). Discharge and potential return home were generally discussed in advance (92 out of 97, 95%).

Results showed high satisfaction rate with both the communication received (mean \pm SD: 4.66 \pm 0.64) and the emotional content (mean \pm SD: 4.66 \pm 0.58).

All the participants were pleased to respond to our phone survey (97 out of 97, 100%).

There was no significant difference in communication satisfaction depending on gender, age, and level of education ($p > 0.05$). Participants were generally satisfied with both informative content and emotional aspects of the received communication. Nobody perceived the phone survey as intrusive.

In the last part of the survey, respondents were asked to express comments and/or suggestions. Forty-four out of 97 (43%) stated that they were satisfied with how the communication was handled and had no suggestion to give. Five out of 97 (5%) openly expressed painful feelings for not being able to see the patient during the hospitalization, and 6 out of 97 (6%) found it difficult not being able to talk to doctors during Christmas holiday time.

Among proposals, 13 out of 97 (13%) found it useful to organize more video calls; 12 out of 97 (12%) would have preferred to have always talked to the same clinician; 4 out of 97 (4%) suggested the first meeting be held in person; and 2 out of 97 (2%) would have liked to have seen the patient before discharge, especially after a long hospital stay.

Discussion

To the best of our knowledge, this is the first study that investigates communication preferences among non-COVID inpatients' families in an onco-hematological setting during

SARS-CoV-2 times. Little literature about hospital communication during this pandemic has been published so far [19] and step-by-step frameworks, some specific to COVID-19, have been developed, including guides to breaking bad news, identifying goals of care, and advance care planning [10, 15, 16, 20]. More precisely, little has been written about communication with patients' families [11, 13, 14, 21] and all of these works refer to COVID-19 patients. Taking into consideration the consequences that SARS-CoV-2 has also had on non-COVID-19 patients and their relatives, data was lacking and therefore collected in this study.

Our work shows that, in COVID-19 era, structured telephone-based communication may be considered a reasonable substitute for in presence meetings with inpatients' families/caregivers and that the development of adaption strategies through doctor-family-patient cooperation may bring many advantages.

First and foremost, this survey gave us the chance to pay more attention to all aspects assessed, conferring more structure to our daily phone calls with relatives, empowering doctor-family relationships and team building through discussion on the subject. In some cases, we understood that some commonly accepted rules were not always put into practice: for example, during first phone calls it was not always assessed what people knew about the underlying onco-hematological disease. This represented a good opportunity for our staff to pay more attention to this aspect.

As our results showed, feedback about how the communication was led was generally high and independent of gender, age, and level of education. This underlines common appreciation towards a more accurate information exchange between clinicians and inpatients' families.

Finally, the "comments and suggestions" section allowed us to have a better understanding of the

psychological implications related to the impossibility of seeing the patient during the whole hospitalization period. It also permitted us to detect useful ways to adjust and improve organization through cooperation between physicians and relatives. Thanks to suggestions that emerged in the phone interviews, we started systematically proposing video calls with smartphones provided by the hospital, which turned out to be a helpful way to mitigate the effects of isolation, especially for relatives of non-self-sufficient patients, who could not use a phone during the hospitalization period. In addition, daily phone calls started to be made—when possible—always by the same doctor, which often allowed us to build more trust and continuity. First meetings were also held in person, so that families had the chance to meet clinicians at least once. Eventually, especially after long lasting hospital stays, relatives were given the possibility to see the patient before discharge, since seeing them changed has been stated sometimes as a traumatic experience.

In all this process, time dedicated to communication has notably changed: whereas in pre-COVID-19 era meetings were held in person and generally not every day, phone calls are now an integral part of our work and relatives are always contacted at the same time from Monday to Friday. This has allowed us to give communication a new structured role that fits in our daily schedule and to create an effective therapeutic alliance with families at home.

Limitations

We recognize some limitations to our research. First of all, preferences were collected through a phone survey, which might have led to the so called “interviewer bias.” The presence of an interviewer could have stimulated respondents not to feel completely free when answering survey questions.

In addition, we investigated preferences among 97 onco-hematologic inpatients’ relatives in a short period of time. Further research conducted in a longer time frame involving a higher number of respondents with different disease histories might be useful to improve communication strategies during these difficult times and to provide new modalities and technologies that can enrich the relationship between doctors, patients, and relatives/caregivers. Lastly, before COVID-19 pandemic, communication with patients’ relatives was led in person and no validated questionnaire existed to assess preferences in this setting so far. Given the urgency of this unprecedented situation and our need of elaborating a mean of coping with the new demands, there was no time to test the questionnaire prior to using it. Further studies are ongoing to validate this instrument.

Conclusion

This study investigates communication preferences among non-COVID inpatients’ families in an onco-hematological setting during SARS-CoV-2 times. Our survey results showed that in COVID-19 era structured telephone-based communication may be considered a reasonable substitute for face-to-face meetings between doctors and relatives. Dialog and cooperation with inpatients’ families and, when possible, practical application of their suggestions might be a useful strategy to adapt to physical distancing obligations and minimize the psychological effects that this unprecedented situation has caused.

If these preliminary results were confirmed, clinical updates delivery through regular and structured phone calls could become a new opportunity also in post-COVID era, especially for relatives who live or work far away and could now have a bigger role in the global process of cancer patients’ care. In this context, video calls might represent a valid improvement that might also enrich virtual communication with non-verbal cues.

Author contribution All authors contributed to the study conception and design. Material preparation, data collection, and analysis were performed by Riccò Beatrice, Fiorani Claudia, and Ferrara Leonardo. The first draft of the manuscript was written by Riccò Beatrice and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Availability of data and material Not applicable.

Code availability Not applicable.

Declarations

Ethics approval The survey is part of a hospital audit program; therefore, approval of the ethics committee was not necessary.

Consent to participate Informed consent was obtained from all participants.

Consent for publication Not applicable.

Conflict of interest The authors declare no competing interests.

References

1. Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP (2000) SPIKES—a six-step protocol for delivering bad news: application to the patient with cancer. *The Oncologist* 5(4):302–311. <https://doi.org/10.1634/theoncologist.5-4-302>
2. Back AL, Arnold RM, Baile WF, Tulsky JA, Fryer-Edwards K (2005) Approaching difficult communication tasks in oncology.

- CA Cancer J Clin 55(3):164–177. <https://doi.org/10.3322/canjclin.55.3.164>
3. Goldfarb MJ, Bibas L, Bartlett V, Jones H, Khan N (2017) Outcomes of patient- and family-centered care interventions in the ICU: a systematic review and meta-analysis. *Crit Care Med* 45(10):1751–1761. <https://doi.org/10.1097/CCM.00000000000002624>
 4. McAdam JL, Arai S, Puntillo KA (2008) Unrecognized contributions of families in the intensive care unit. *Intensive Care Med* 34(6):1097–1101. <https://doi.org/10.1007/s00134-008-1066-z>
 5. Cherlin E, Fried T, Prigerson HG, Schulman-Green D, Johnson-Hurzel R, Bradley EH (2005) Communication between physicians and family caregivers about care at the end of life: when do discussions occur and what is said? *J Palliat Med* 8(6):1176–1185. <https://doi.org/10.1089/jpm.2005.8.1176>
 6. Waldrop DP, Meeker MA, Kerr C, Skretny J, Tangeman J, Milch R (2012) The nature and timing of family-provider communication in late-stage cancer: a qualitative study of caregivers' experiences. *J Pain Symptom Manage* 43(2):182–194. <https://doi.org/10.1016/j.jpainsymman.2011.04.017>
 7. Harris J, Bowen DJ, Badr H, Hannon P, Hay J, Regan Sterba K (2009) Family communication during the cancer experience. *J Health Commun*. 14(sup1):76–84. <https://doi.org/10.1080/10810730902806844>
 8. Washington KT, Craig KW, Parker Oliver D et al (2019) Family caregivers' perspectives on communication with cancer care providers. *J Psychosoc Oncol* 37(6):777–790. <https://doi.org/10.1080/07347332.2019.1624674>
 9. Seo YJ, Park H (2019) Factors influencing caregiver burden in families of hospitalised patients with lung cancer. *J Clin Nurs* 28(9–10):1979–1989. <https://doi.org/10.1111/jocn.14812>
 10. Gray NA, Back AL (2020) COVID-19 communication aids. *BMJ*. Published online June 11, 2020:m2255. <https://doi.org/10.1136/bmj.m2255>
 11. Borghi L (2021) Clinician-patient-family member interactions in COVID-19 serious conditions: a glimpse from the other side of the limbo. *Patient Educ Couns*. Published online February 2021:S0738399121000707. <https://doi.org/10.1016/j.pec.2021.02.003>
 12. Kross EK, Engelberg RA, Gries CJ, Nielsen EL, Zatzick D, Curtis JR (2011) ICU care associated with symptoms of depression and posttraumatic stress disorder among family members of patients who die in the ICU. *Chest* 139(4):795–801. <https://doi.org/10.1378/chest.10-0652>
 13. Marra A, Buonanno P, Vargas M, Iacovazzo C, Ely EW, Servillo G (2020) How COVID-19 pandemic changed our communication with families: losing nonverbal cues. *Crit Care*. 24(1):297, s13054–020–03035-w. <https://doi.org/10.1186/s13054-020-03035-w>
 14. Negro A, Mucci M, Beccaria P, et al (2020) Introducing the video call to facilitate the communication between health care providers and families of patients in the intensive care unit during COVID-19 pandemic. *Intensive Crit Care Nurs*. 60:102893. <https://doi.org/10.1016/j.iccn.2020.102893>
 15. Flint L, Kotwal A (2019) The new normal: key considerations for effective serious illness communication over video or telephone during the coronavirus disease 2019 (COVID-19) pandemic. *Ann Intern Med* 173(6):486–488. <https://doi.org/10.7326/M20-1982>
 16. Ariadne Labs (2020) Serious illness care program COVID-19 response toolkit. Accessed at <https://covid19.ariadnelabs.org/2020/04/15/serious-illness-care-program-covid-19-response-toolkit> on 1 May 2020
 17. Center to Advance Palliative Care (2020) CAPC COVID-19 response resources. Accessed at www.capc.org/toolkits/covid-19-response-resources on 1 May 2020
 18. Conducted on behalf of the EORTC Quality of Life Group, Arraras JI, Wintner LM, et al (2017) EORTC QLQ-COMU26: a questionnaire for the assessment of communication between patients and professionals. Phase III of the module development in ten countries. *Support Care Cancer*. 25(5):1485–1494. <https://doi.org/10.1007/s00520-016-3536-0>
 19. Rubinelli S, Myers K, Rosenbaum M, Davis D (2020) Implications of the current COVID-19 pandemic for communication in healthcare. *Patient Educ Couns* 103(6):1067–1069. <https://doi.org/10.1016/j.pec.2020.04.021>
 20. Back A, Tulsy JA, Arnold RM (2020) Communication skills in the age of COVID-19. *Ann Intern Med* 172(11):759–760. <https://doi.org/10.7326/M20-1376>
 21. Gristina G (2020) How to communicate with families living in complete isolation. *Recent Prog Med* 111(6):357–367. <https://doi.org/10.1701/3394.33757>

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