



Helping patients connect remotely with their loved ones modulates distress in healthcare workers: A tend-and-befriend hypothesis for COVID-19 front liners

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ABSTRACT

The no-visitor policies endorsed by healthcare organizations to limit COVID-19 virus risk exposure have unfortunately contributed to the isolation of patients further exacerbating distress in relatives and frontline healthcare workers. To contrast such effects, many healthcare institutions have adopted technology-based solutions helping patients and families communicate online through the aid of virtual devices. To date, no study has investigated whether facilitating patient-family videocalls would mitigate distress levels in frontline healthcare professionals. Caring for emotional needs of patients by re-establishing affiliative connections interrupted by the pandemic through patient-family videocalls is expected to mitigate distress in engaged healthcare workers as an example of a tend-and-befriend response to stress caused by the pandemic. We tested this hypothesis in a cross-sectional study conducted during 1–30 June 2020, involving 209 healthcare workers (nurses = 146; physicians = 63) engaged in the COVID-19 frontline in Italy. Half of participants in our sample ($n = 107$) had assisted efforts aimed at connecting patients remotely with families through videocalls. Psychological distress measures included symptoms of burnout, post-traumatic stress, anxiety, depression, and difficulty in sleep and wakefulness. Partially in line with our expectations we found a modulation effect specific for professional category: nurses assisting patient-family videocalls reported significantly lower levels of distress and a better quality of wakefulness compared to those who did not, whereas physicians reported higher levels of distress during such virtual communications. We interpret these findings from the perspective of patient-family communication and differences in skills and training between nurses and physicians. These findings highlight that technology-based solutions aimed at reducing barriers and alleviating distress in healthcare settings should be promoted in concert with skill enhancement training for healthcare professionals especially in terms of communicating online and communicating difficult topics with patients and families.

Ayudando a los pacientes a conectarse en forma remota con sus seres queridos modula el estrés en trabajadores de la salud: Una hipótesis de 'cuidar y hacer amigos' para trabajadores en primera línea del COVID-19

La política de no recibir visitas que ha sido legitimada por organizaciones de atención de salud para limitar el riesgo de la exposición al virus COVID-19 ha contribuido en forma desafortunada al aislamiento de los pacientes, lo que aumenta el malestar/angustia en familiares y en trabajadores de salud de la primera línea. Para contrastar tales efectos, muchas instituciones de salud han adoptado soluciones basadas en la tecnología para ayudar a pacientes y familiares a comunicarse en línea a través de la ayuda de dispositivos virtuales. Hasta la fecha, ningún estudio ha investigado si es que la facilitación de video llamadas paciente-familiares pudiese mitigar el nivel de angustia en profesionales de salud de primera línea. Se espera que el cuidado de las necesidades emocionales de los pacientes mediante el restablecimiento de conexiones afiliativas interrumpidas por la pandemia a través de video llamadas entre el paciente y la familia ayude a mitigar la angustia en los trabajadores de la salud como un ejemplo de una respuesta de "cuidar y hacer amigos" a la angustia causada por la pandemia. Probamos esta hipótesis en un estudio transversal realizado entre el 01 y el 30 de junio del 2020, en la que participaron 209 trabajadores de la salud (enfermeras=146; médicos=63) involucrados en la atención de la primera línea del COVID-19 en Italia. La mitad de los participantes en nuestra muestra ($n=107$) habían asistido a esfuerzos destinados a conectar a los pacientes en forma remota con sus familias a través de video-llamadas. Las medidas de angustia psicológica incluyeron síntomas de burnout, estrés postraumático, ansiedad,

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关键词

COVID-19 疫情; 医护人员应激; 患者-家人在线沟通

HIGHLIGHTS

- Tending to patients' emotional needs by facilitating virtual communication with families mitigates distress in COVID-19 front-line nurses.
- The inverse effect was observed among physicians who reported enhanced distress putatively due to gaps in communication skills and training.

depresión, dificultad para dormir y estar despiertos. Parcialmente en línea con nuestras expectativas, encontramos un efecto modulador específico para la categoría profesional: Las enfermeras que asistían las video llamadas de los pacientes con sus familias reportaron significativamente menor nivel de angustia y una mejor calidad de vigilia en comparación con las que no lo hicieron, mientras los médicos reportaron mayores niveles de angustia durante tales comunicaciones virtuales. Interpretamos estos hallazgos desde la perspectiva de la comunicación paciente-familia y las diferencias en las habilidades y formación entre las enfermeras y los médicos. Estos hallazgos destacan que las soluciones basadas en la tecnología destinadas a reducir las barreras y aliviar la angustia en los entornos de atención de salud deben promoverse junto con la capacitación para la mejora de habilidades para profesionales de la salud especialmente en términos de comunicarse en línea y comunicar temáticas difíciles a pacientes y familiares.

帮助患者与亲人远程联系可调节医护人员的痛苦:针对 COVID-19 一线人员的照料与结盟假设

医疗机构批准的限制 COVID-19 病毒风险暴露的无访客政策不幸导致患者被隔离,进一步加剧了亲属和一线医护人员的痛苦。为了应对这种影响,许多医疗机构采用了基于技术的解决方案,通过虚拟设备帮助患者和家人进行在线沟通。迄今为止,还没有研究考查帮助患者家庭视频通话是否会减轻一线医疗保健专业人员的痛苦程度。通过患者家属视频通话重建因疫情中断的亲友联系来照顾患者的情感需求,有望作为一个对疫情引发应激的照料与结盟反应的例子,减轻敬业的医护人员的困扰。我们在 2020 年 6 月 1 日至 30 日期间进行的一项横断面研究中检验了这一假设,涉及在意大利从事 COVID-19 一线工作的 209 名医护人员(护士 = 146; 医生 = 63)。我们样本中的一半参与者 ($n=107$) 协助了旨在通过视频通话将患者与家人远程联系起来的努力。心理困扰测量包括倦怠、创伤后应激、焦虑、抑郁以及睡眠和清醒困难的症候。部分符合我们的预期,我们发现了特定于专业类别的中介效应:相较于未协助患者家属视频通话的护士,协助患者家属视频通话的护士报告的痛苦程度显著降低,清醒质量更好,而医生在这种虚拟通信过程中报告了更高的痛苦。我们从患者与家属的沟通以及护士和医生之间技能和培训的差异的角度来解释这些结果。这些发现强调了旨在减少障碍和减轻医护人员环境中痛苦的技术解决方案应与医疗保健专业人员的医护技能增强培训(尤其是在在线沟通与患者和家属沟通困难话题方面)一起推广。

Dear Editor,

Aimed to limit risks to COVID-19 virus exposure, the no-visitor policies endorsed by healthcare organizations have unfortunately disrupted essential affiliative links, contributing to the isolation of COVID-19 patients (Bo et al., 2020) and further exacerbating distress in relatives (Ingravallo, 2020) and healthcare workers (Rose, Cook, Casey, & Meyer, 2020). Family absence from intensive care units uniquely frustrates the basic need of patients to receive comforting support from significant others when sick and dying (Taylor, 2012) while posing barriers to the flow of updates to relatives on their loved one's condition. This contributes significantly to the distress of front-line healthcare workers (HCWs) who witness patients deteriorate and die without their loved ones present and are also required to handle difficult conversations with families (Bowman, Esch, Back, & Marshall, 2020; Rabow, Huang, White-Hammond, & Tucker, 2021).

In such unprecedented times, alleviating human suffering through tending to patients' emotional needs is paramount, and maintaining connections with families through the aid of digital devices has been recommended as a way of mitigating distress caused by pandemic-related restriction measures (Fino, Fino, Mazzetti, & Russo, 2020; Negro et al., 2020). Efforts in Italian healthcare facilities, as in

other parts of the world, have concentrated on facilitating videocalls and 'virtual family visits' (Negro et al., 2020; Rose et al., 2020). Enabling virtual contact with families whenever possible is believed to benefit isolated patients who need to receive emotional support from families during hospitalization, while enhancing family engagement in intensive care and likely contributing to downregulating distress levels in engaged HCWs. Also known as the tend-and-befriend response to stress (Taylor, 2012), caring for emotional needs of patients by re-establishing affiliative connections interrupted by the pandemic are heart-warming examples of a patient-centred care in the emergency context and may crucially modulate the stress response of HCWs. To date, no study has investigated whether facilitating virtual patient-family communications would mitigate distress levels in engaged healthcare professionals.

We tested this hypothesis in a cross-sectional study conducted from 1 to 30 June 2020, including 209 healthcare workers (female = 162) deployed in COVID-19 facilities located in worst-hit regions of Italy. Respondents completed an online questionnaire probing on socio-demographic and work-related variables (i.e. professional category, seniority and having facilitated virtual patient-family communications via tablet, smartphone during service). Our sample was composed of

nurses ($n = 146$) and physicians ($n = 63$) and 50% of participants ($n = 107$) had assisted efforts aimed at connecting patients remotely with families through videocalls.

Psychological distress measures included symptoms of burnout, measured with the 21-item Maslach Burnout Inventory (MBI, Maslach & Jackson, 1981), post-traumatic stress measured with the 20-item PTSD Checklist for DSM-5 (PCL-5, Weathers et al., 2013), anxiety and depression, measured with the 14-item Hospital Anxiety and Depression Scale (HADS, Zigmond & Snaith, 1983) and difficulty in sleep and wakefulness assessed with the 10-item Mini Sleep Questionnaire (MSQ, Natale, Fabbri, Tonetti, & Martoni, 2014). IRB approval was granted from Bologna University (No.16560) and all participants provided informed consent.

To characterize the sample and assess group differences, we performed descriptive statistics and ANOVAs using IBM SPSS Statistics for Windows, with significance level set at $p < .05$. Dependent variables were symptoms of burnout, PTSD, anxiety, depression and difficulty in sleep and wakefulness. Independent variables were professional category (nurse, physician) and assisting videocalls (VC) with families, controlling for sex, age, and seniority.

Female HCWs reported significantly higher levels of post-traumatic stress ($F_{1,208} = 4.85, p = .029, \eta^2 = 0.023$), anxiety ($F_{1,208} = 7.45, p = .007, \eta^2 = 0.035$) and more difficulty in wakefulness ($F_{1,208} = 4.32, p = .039, \eta^2 = 0.021$) compared to males. Furthermore, nurse professionals scored higher on the burnout subscale of depersonalization compared to physicians ($F_{1,208} = 4.64, p = .032, \eta^2 = 0.022$) (See Supplementary Table 1). Compared to younger HCWs, the more senior professionals reported significantly lower levels of anxiety ($F_{1,208} = 5.31, p = .022, \eta^2 = 0.026$).

Relevant to our study hypothesis, a significant interaction effect emerged between professional category and facilitation of videocalls with families for all dependent measures (all $ps < 0.05$) except the burnout subscale of personal achievement ($p = .313$). Partially in line with our expectations, pairwise comparisons (Bonferroni corrected) showed that nurses facilitating patient-family communications reported significantly lower levels of emotional exhaustion, depersonalization, PTSD, anxiety and of wakefulness difficulty compared to nurses who did not. Instead, higher scores on emotional exhaustion, PTSD and anxiety were reported by physicians assisting videocalls (see Figure 1 and Supplementary Table 1).

Our results indicate a modulation effect specific for professional category and our hypothesis was confirmed only for nurse professionals who reported significantly lower levels of distress and of difficulty in wakefulness when assisting patient-family videocalls. The finding that physicians engaged in such virtual encounters reported

higher levels of distress was somehow unexpected, but it can be interpreted from the perspective of patient-family communication. Nurses are likely more versed than physicians in such skills, given their training and the more extensive contact with patients and families, which may explain why physicians facilitating online patient-family communications seem to feel more ill at ease during such conversations. Although further research on this issue is warranted, our study is the first to suggest that tending to emotional needs of patients by re-establishing affiliative connections interrupted by the pandemic may benefit the wellbeing of engaged nurses who are reportedly the most burdened of all healthcare front-liners (García-Fernández et al., 2020; Lai et al., 2020). Our findings also support the until now anecdotal evidence about frontline clinicians experiencing distress during online communication with families (Bowman et al., 2020; Collini, Parker, & Oliver, 2020) and highlight the need for frontline professionals to receive tailored support and guidance tools in communicating with families and patients during such unprecedented times.

Sustaining the psychological wellbeing of frontline healthcare workers as they continue to provide the best patient-centred care is crucial in an emergency context (Fino et al., 2021). Technology-based tools and solutions in healthcare settings appear to be quite promising in terms of reducing barriers and alleviating distress (Colombini, Duradoni, Carpi, Vagnoli, & Guazzini, 2021) which are especially exacerbated by pandemic related measures. While virtual communication technologies facilitating remote interactions between HCWs, patients and family will likely be in the rise in healthcare organizations beyond the current pandemic, it is crucial that they be complemented by skill enhancement training for healthcare professionals especially in terms of communicating online and communicating difficult topics with patients and families.

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Data availability statement

The dataset supporting this work can be consulted at <https://amsacta.unibo.it/>

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