

CORRESPONDENCE



Telehealth in hematopoietic cell transplantation: perspective from patients at a public hospital in Brazil

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TO THE EDITOR:

Hematopoietic Cell Transplant (HCT) is a potential curative treatment for hematological diseases. Patients undergoing HCT are usually immunosuppressed and require frequent outpatient visits. During the COVID-19 pandemic, we faced the challenge of providing medical care for HCT patients while preventing environmental exposure to SARS-CoV-2. Our HCT team (i.e., physicians, nurses, pharmacists, a dietician, and a social worker) started performing telehealth using a HIPAA-compliant *Google Meet*-based institutional platform or telephone calls in March/2020. To evaluate the feasibility of using this strategy as a permanent tool, we sent out a survey to HCT recipients to better understand their opinion on and early experience with telehealth.

All patients actively enrolled at our HCT Outpatient Clinic declared they could be reached through *Whatsapp*[®], either on their own or a close contact's smartphone. We had been using that platform for clinic appointments and non-medical information before the COVID-19 pandemic. We sent out a questionnaire on *Google Forms* containing a few questions regarding barriers to commute to clinic, access to internet, experience and feelings about the use of telehealth at our outpatient clinic and their incipient experience with it (main survey). Participants were instructed to answer the questions from the patient's perspective, regardless of if the survey was filled out by the patients themselves or caregivers. The questionnaire was anonymous, written in Portuguese, and remained open from August 3rd to October 10th, 2020. The survey invitation was sent out to 401 auto or allogeneic HCT recipients who had been seen in clinic over the last 12 months. Following the main survey, an accompanying questionnaire was sent out to better comprehend the socio-economic profile of patients. A concomitant survey was sent to healthcare providers that work in the transplant clinic.

Two hundred and thirty-two patients answered the main survey. The total time to go to and come back from clinic was <30 min for 5%, 30–60 min for 24%, 60–90 min for 20%, 90–120 min for 18% and >120 min for 33%. Total cost to commute to and from clinic (for both the patient and an eventual caregiver) was >US\$ 10.00 (equivalent to 5% of the minimum wage per month) for 42%. Thirty-eight percent of participants reported any degree of mobility disability. Thirty-three and 28% of patients complained of long waiting times for in-person doctor and pharmacy appointments, respectively. In terms of technology, 98% had a personal cell phone or smartphone. Ninety-four percent of patients had access to internet on a smartphone, and 32% through a personal computer (some had both). Sixty-five

percent reported no difficulty using a cell phone, 23% some difficulty and 12% significant difficulty. Ninety-six percent regularly used social media apps. Approximately half of the patients had at least one previous interaction via telehealth with our center during the COVID-19 pandemic, of whom 91% considered it a good or very good experience. When inquired if they would like to start receiving or continue to receive telehealth care, 83% answered yes, 11% expressed some interest and 6% declared no interest. When asked about their opinion on widening telehealth use at the HCFMUSP HCT Outpatient Clinic following the pandemic, 42% answered they would certainly use it, 43% thought it could be good, 9% had concerns, 3% were indifferent, and 3% did not approve the idea.

We obtained 130 responses for the accompanying questionnaire (56% of the responders of the initial survey). Median age was 47 years old. Fifty-four percent described themselves as white, 38% mixed race, and 8% black. Fifty-five percent lived in the city of São Paulo, 25% from another municipality in São Paulo State, and the remaining from other states in Brazil. Twenty percent had less than elementary school, 22% were elementary school graduates, 34% high school graduates, and 24% had a bachelor's degree or higher. The reported monthly income per capita was less than <US\$110 for 14%, between US\$110 and 220 for 30%, between US\$220 and 330 for 22% and more >US\$330 for 34%. Types of transportation were the patient's private vehicle for 34%, public transportation (bus, train, or subway) for 33%, medical taxi paid by the government for 15%, private taxi/transportation apps for 13%, mixed for 5%.

The concomitant survey was sent to 20 healthcare providers that work in the transplant clinic (11 physicians, 5 nurses, 1 pharmacist, 1 social assistant, 2 dentists), with 17 responses obtained (9 physicians, 5 nurses, 1 pharmacist, 1 social assistant, 1 dentist). Considerable experience with telehealth was reported from 41% of healthcare providers. 53% think that telehealth would facilitate patient care in their areas and 6% would not like to provide telehealth. 82% said they will definitely or probably use a telehealth platform at our service but 18% have concerns.




Telehealth has been associated with decreasing costs for patients [1, 2], higher medication adherence [3], and improved access to health care [4]. Over the last two decades, a few groups have reported the use of telehealth to connect with HCT recipients living in remote locations [5], apply psychotherapeutic interventions [6–8] and provide care to long-term HCT survivors [9–11]. During the COVID-19 pandemic, telehealth was employed among HCT recipients to track symptoms early post-transplant, monitor anxiety levels and quality of life, stimulate exercise programs and detect changes in vital signs [12, 13], yet to our best knowledge, no previous study assessed the overall experience of telehealth among HCT patients receiving multidisciplinary care.

Our study highlights how much in-person appointments may be both cost and time-consuming and represent a relevant

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burden on this limited-resource population, as well as how telehealth in turn may be an opportunity to tackle that challenge. Despite being a public health institution from a developing country, it is noteworthy that most of our patients have personal cell phones with easy internet access. Among those who had an incipient experience with telehealth, the impression was overall positive. However, this survey has limitations: (1) the main limitation of this study is a probable selection bias toward participants who were more familiar with technology and thus more inclined to answer the survey and appreciate telehealth, but the design of the survey did not allow us to mitigate this bias; (2) we did not formally assess the costs and time effectively saved by using telehealth nor the impact it may have had on quality of care; (3) although all types of healthcare workers (e.g., physicians, pharmacists, and others) at our HCT clinic incorporated telehealth, exposure of individual patients to these different professionals via telehealth was not uniform, possibly affecting their overall experience.

Taken together, although not always fit for all clinical scenarios, our findings suggest telehealth may be efficient and complementary to in-person interactions with HCT patients, prompting further research and wider implementation of this healthcare modality.

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DATA AVAILABILITY

Data available on request from the authors.

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AUTHOR CONTRIBUTIONS

AC and GF conceived the questionnaires, acquired data and wrote the paper. LM conceived the questionnaire and reviewed the paper. VR reviewed the paper. All authors approved the final version.

COMPETING INTERESTS

The authors declare no competing interests.

ADDITIONAL INFORMATION

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