

Digital Mental Health Care in Humanitarian & Crisis Settings: A Mixed-Methods Exploration During The COVID-19 Pandemic

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Abstract

Background

'Digital Mental Health services,' or mental health care delivered via internet, computers, mobile phones, tablets, or text messaging services, are an increasingly important way to expand care to underserved groups in low-resource settings. In order to continue providing psychiatric, psychotherapeutic and counselling care during COVID-19-related movement restrictions, Médecins Sans Frontières (MSF), a humanitarian medical organization, abruptly transitioned part of its mental health (MH) activities to digitally supported remote services in 2020 across humanitarian and resource-constrained settings.

Methods

From June-July of 2020, investigators used a mixed method, sequential explanatory study design to assess MSF staff perceptions of digital MH services provided during the COVID-19 crisis. Preliminary quantitative results influenced qualitative question guide design. Eighty-one quantitative online questionnaires were collected and a subset of 13 qualitative follow-up in-depth interviews (IDI) occurred.

Results

Respondents in 44 countries (6 world regions), mostly from Sub-Saharan Africa (39.5%), the Middle East (18.5%) and Asia (13.6%) participated. Most digital MH interventions depended on audio-only platforms (80%). 30% of respondents reported that more than half of their patients were unreachable using digital interventions, usually because of poor network coverage (73.8%), a lack of communication devices (72.1%), or a lack of a private space at home (67.2%). Nearly half (47.5%) of respondents felt their staff had a decreased ability to provide comprehensive MH care using digital platforms. Most respondents thought MH staff had a negative (46%) or mixed (42%) impression of remote care. Nevertheless, almost all respondents (96.7%) thought digital MH services had some degree of utility, most commonly citing improved access to care (37.7%) and greater time efficiency (32.8%) as reasons for its continued use.

Conclusion

Digital MH activities were seen as an acceptable alternative to in-person therapeutic interventions in humanitarian settings during the COVID-19 pandemic. However, they were not considered suitable for all patients in the humanitarian contexts studied, especially survivors of sexual or interpersonal violence, pediatric and geriatric cases, and patients with severe MH conditions. Audio-only technologies that lacked non-verbal cues were particularly challenging and made risk assessment and emergency care more difficult. Prior to considering digital MH services, communications infrastructure should be assessed, and comprehensive, context-specific protocols should be developed.

Introduction

The treatment gap for mental health (MH) services in low- and middle-income countries (LMIC) is a chasm, with the ratio of LMIC MH therapists estimated at only 0.5% of what is available in high-income countries¹. When humanitarian crises (resulting from of armed conflict, natural disasters, or disease outbreaks) are superimposed onto the underlying adversity often experienced in LMIC, MH needs become even more acute, but access to care usually remains unavailable².

'Digital MH services,' or MH care delivered via internet, computer, mobile phone, tablet, or text messaging services (also called tele-mental health, tele-counseling, tele-psychology, or tele-psychiatry), are becoming an increasingly important way to expand care to underserved groups³. They bring the promise of real-time consultation in understaffed, difficult-to-reach, insecure, and remote areas. These methods have been highly effective in high-income countries⁴⁻⁶ and their use and effectiveness in LMIC has been seen across diverse settings and MH conditions⁷⁻¹³. There are numerous advantages to digital MH solutions, including reduced travel time, costs, and wait times, and improved access to services and information¹⁴⁻¹⁷. In some cases, they are considered an enabling and empowering form of service delivery and have increased patient and caregiver satisfaction rates^{18,19}.

Yet these interventions are not a panacea. Systematic reviews of digital MH solutions in 2020 and 2021 found only 'moderate' clinical effectiveness in LMIC and emphasized that robust study on the topic remains limited³. Digital MH services may reinforce systemic inequalities in access to care for populations with a substantial digital divide²⁰. There are also serious ethical questions about the use of digital MH tools across settings. MH data is more sensitive, personal, and potentially stigmatizing than other health data²¹. In low-resource and humanitarian contexts, medical privacy norms may not be as firmly established or regulated, and medical ethicists worry that remote services may not protect people from substandard MH care or unwanted use of their personal information²². With weak evidence of digital MH care's efficacy over traditional, in-person therapeutic methods, these concerns must be seriously considered.

Nevertheless, during the 2020 COVID-19 lockdown, unease about digital MH solutions had to be weighed against the threat of discontinuing care entirely for patients whose movement was restricted. Médecins Sans Frontières (MSF), a medical humanitarian organization offering MH and other care in low-resource and crisis settings around the world, assessed this risk carefully before changing a substantial part of its MH activities to remote care in April of 2020. The shift was rapid and necessary but allowed minimal preparation in many cases. Some facilities had little technological infrastructure or no previous experience using digital MH care approaches. Others had staff or patients who were skeptical of this change. As a result, the organization decided to concurrently evaluate the altered service provision in an effort to understand the challenges and successes of implementing digital care in a tumultuous period, and to better prepare for similar remote care needs in the future. To our knowledge, this is the first assessment of MH staff perceptions of digital MH care during the COVID-19 pandemic in humanitarian, crisis, or otherwise low-resource settings.

Methods

This study was undertaken in June-July 2020 using a mixed method, sequential explanatory design. Preliminary quantitative results influenced the formulation of qualitative question guides.

Staff from projects providing MH services (ranging from professional counselling to psychotherapeutic and psychiatric care) were invited to participate regardless of the extent or existence of digital service provision in their project site. Participants from project sites without digital MH services were probed about the types of services provided and other context characteristics, whereas those that were able to implement digital MH solutions answered more detailed questions about this process.

Quantitative Data Collection

120 staff in charge of MSF MH activities were invited to participate in an online survey through their official MSF email address, of which 84 (70.0%) provided consent and 81 (67.5%) participated. Participation was restricted to those in managerial or supervising roles with a breadth of information about MH care provision across their facilities, though these staff were not always patient facing themselves. After completing an online informed consent process, a link to the quantitative questionnaire was sent to the participants, who are henceforth referred to as “activity managers.” Quantitative data was entered and analysed using R v.3.6.5.

Qualitative Data Collection

To provide depth to qualitative findings, in-depth interviews (IDI) were conducted after online surveys were completed. Using a purposive, gatekeeper sampling strategy, a subset of key informants was recruited from among those who completed a quantitative questionnaire. Data were collected until the point of saturation. Investigators sought a sample with maximal heterogeneity to capture as wide a spectrum of experience as possible, and therefore staff from every region in which MSF has MH operations were included (Table 1). The sample ultimately included staff from a variety of humanitarian contexts (such as migration and forced displacement, chronic conflict or violence, natural disasters, post-conflict contexts, etc). Interviews were conducted in English (except when a participant indicated a preference for French), with audio or audio-visual equipment, and could be paused or ended at any time if requested by the participant.

Table 1
MH patient type served by sampled MSF Mental Health Care Activity Managers (N = 81)*

Patient Type Served by MSF Mental Health Program	n	%
Primary Health Care	42	51.9
Sexual Violence Survivor	42	51.9
Migrants (internally displaced, refugees, other)	36	44.4
COVID-19 Suspects/Patients	35	43.2
Urban Population (chronic violence settings or lack of care)	26	32.1
Long-term Chronic Disease/Adherence Support (HIV, TB, NCDs)	19	23.5
Malnutrition Program Participant	15	18.5
Maternal Health Program	12	14.8
Surgical/burns Patients	8	9.9
Non-COVID-19 Outbreak Support	2	2.5
Pediatric Patients	1	1.2

**Data derived from multiple choice question where respondents could select more than one option.*

Confidentiality was maintained by not including participant names or defining characteristics throughout the transcription and translation process (1/13 interviews were conducted in French and were translated prior to analysis). IDI transcripts were reviewed for quality and errors by the interviewer before being uploaded to NVivo software v1.3. Authors then independently open-coded the true-speech, verbatim transcripts for themes and recursively developed and refined an inductive, thematic structure. Descriptive and content analysis of transcripts was conducted.

Ethics

This study was approved by the MSF internal Ethical Review Board (Protocol ID: 2028). Inclusion was voluntary and required written informed consent. Participants provided permission for use of audio recordings and verbatim quotation. The datasets used in the study are available upon reasonable request to MSF-France's Medical Director via the study's corresponding author.

Results

Quantitative Survey

81 online surveys were completed (67.5% response rate) from activity managers located in 44 countries and 6 world regions. The majority of responders were located in Sub-Saharan Africa (39.5%), the Middle East (18.5%), and Asia (13.6%). The implementation of digital MH interventions was subject to concurrent and complex challenges (Fig. 1), but 61 (75.3%) of the total number of participants managed to

overcome these barriers and initiate a transition to digital care, despite providing a wide variety of MH care. Notably, the large majority of digital MH interventions depended on audio-only platforms (80%), with video consultation available for only 20% of projects.

Among the projects that implemented digital MH services (n = 61), nearly a third (30%) of activity managers reported that more than half of their patients could not be reached using remote digital care. Poor network coverage (73.8%), a lack of communication devices (72.1%), or a lack of a private space at home (67.2%) were the leading obstacles reported preventing good outreach using digital solutions. Nearly half of activity managers (42.6%) thought children were most often excluded when digital MH services were exclusively used, while nearly a third (29.5% and 31.1% respectively) thought this of the elderly and people with severe MH conditions. Thirty-three participants reported that there were at least some patients showing increased engagement when care was transitioned to digital MH platforms, and 36.4% reported that adults engaged better than other age groups, with no gender difference. Half (54%) of the respondents reported that patients indicated concerns about the privacy of the digital consultations, with a lack of a private space for confidential conversations cited as a primary worry. A notable 42.4% of respondents perceived this as linked to fear of sexual or interpersonal violence. Other reported concerns were stigma (6.1%) and a lack of trust in MSF (3%). Language barriers, the difficulties of incorporating interpreters into digital care models, missed appointments or scheduling conflicts, a lack of non-verbal cues during audio-only interviews, and a lack of clear protocols and guidelines were also cited as barriers to successful digital MH care.

Activity managers indicated that their staff had variable capacity to conduct important patient assessments, with 21.3% of managers reporting some staff unable to conduct a full MH assessment digitally, and 31.3% reporting some staff unable to conduct a protection risk assessment digitally. Nearly half (47.5%) of respondents felt their staff had a decreased ability to provide comprehensive MH care using digital platforms, with few reporting a similar (19.7%) or increased (3.3%) ability to provide comprehensive care. When asked to rate their project's perception of the effectiveness of digital MH services compared to in-person sessions, most thought staff had a negative (46%) or mixed (42%) impression of remote care. The most common digital MH care needs cited by managers were training (41.7%) (including on care delivery, patient management, and remote MH assessments), clear guidelines and protocols (22.9%), and communications devices (12.5%) for both patients and staff. Nevertheless, despite the challenges, almost all MH activity managers (96.7%) thought digital MH services had some degree of utility as an alternative to in-person consultations, most commonly citing improved access to care (37.7%) and greater time efficiency (32.8%) as reasons for its continued use.

Qualitative Assessment

Following the completion of the online survey, 48 participants consented to in-depth interviewing on the topic. After interviews with the first 13 respondents, investigators believed that a point of saturation was achieved, and no further IDIs were pursued. IDI participants represented 5 geographic regions as well as multiple MH program types. Two participants came from programs that had not succeeded in

implementing digital health strategies and seven mentioned having no previous experience with digital MH care prior to the COVID-19 pandemic.

Advantages of Digital MH Care

Overall, activity managers interviewed felt grateful that remote care options were available during the pandemic, though all still expressed a preference for in-person care. They described greater accessibility for some patients, time efficiency (more consultations, better time management), and less unnecessary travelling and related costs for both patients and MH care providers.

[Counselors can] stay in the office and call every patient, every week quite easily! That is why I think it is time efficient, because [before] we spent so much time on the road
I would always recommend tele-counseling to most mental health programs because they are an option for people who cannot come to the facility... [and] offer...services regardless of the day and time.

Notably, prior to providing digital MH services in their facilities, half of the IDI participants described thinking it would not be feasible to do so in their clinical setting, assuming that these services would have low acceptance by patients, that there would not be enough communication devices, internet, phone network, or call credit, and that their team's organization and abilities would be insufficient for the task. These interviewees described being positively surprised by the experience of being forced to provide remote care, with one manager stating *"Now, everything we thought has changed because...we realized that [digital MH services] will be important...and they worked; the teleconsultations really had a positive impact."*

Challenges Providing Digital MH Care

Some patients cannot do in-person sessions. In this case, tele-counseling really helps a lot. Other than this, there are mostly disadvantages...

Despite some advantages, the challenges surrounding the sudden transition to digital MH services were numerous. Some types of remote sessions were considered particularly challenging, especially psychiatric assessments of new patients and counseling prior to initiating a long-term medical treatment. More routine MH services (such as general and adherence counseling, psychosocial counselling, psychological care, psychiatric care, etc.) was described by one respondent as "difficult...but doable".

i. Communications Infrastructure

Respondents described the many device-related challenges they faced when transitioning to digital MH care: indigent patients often lacked the phones, tablets, computers, internet access, cell phone signal, and money or credit necessary for a digital MH consultation. Most MSF staff provided remote MH care using nothing more than basic, non video-enabled mobile phones. Group therapy sessions with participants in multiple locations were not possible. When automated billing plans were unavailable (as is common in many LMIC), both the patient and provider's phone would have to be periodically 'filled' with pre-paid

credit. IDI respondents described the stress associated with digital sessions; often running longer than in-person consultations, that were interrupted or unfinished because of insufficient phone credit. Moreover, mobile phone network coverage was often dependent on location and time, particularly in rural sites and during peak hours, which also led to dropped calls, background or other noise, and other connection difficulties that could be particularly stressful when patients were at high-risk of serious MH sequelae or other harm.

Additionally, many of MSF's diverse settings depend on language translators as part of the therapeutic environment. This proved difficult to replicate virtually, with complex three-way calling procedures in some mobile networks, network and connection challenges, confidentiality issues, and a lack of available translators overall during the pandemic period.

ii. Excluded and Vulnerable Populations

Many patients did not own a communication device and thus could not access care without sharing or borrowing someone else's. This was particularly the case for female, pediatric, and geriatric MH patients and, in some cases, potentially left some individuals more vulnerable to controlling or abusive family members during the period of remote MH care. However, phones provided by MSF could also trigger issues of privacy and household power dynamics that could threaten the robustness of MH care provision. Participants reported that abusive individuals (husbands, parents, etc.), who would usually be excluded from the consultation room prior to COVID-19, had a tendency to normalize a patient's suffering, intensify MH stigma, and sometimes impede contact with MH professionals.

When we are talking about children, the family members say: 'he or she is okay' ...But it doesn't mean that the child is exactly okay. Maybe a child is suffering, maybe being abused...we don't know. And they will not tell us because if we can reach [the children], the family is going to be around...So how can we know what is happening to a child in this context?

It is not nice for some women to receive a call [from a male counsellor]. Sometimes this can be an issue because we have only three women counsellors...Women often don't want to share their problems due to fear or their family members' negative attitudes (often a husband or a mother-in-law). Therefore, they refuse to receive help.

IDI participants described how pediatric and female patients would sometimes participate in consultations with other family members present, either because a household member wanted to actively monitor the session (out of fear that the patient would disclose certain information) or because the reality of their living situation prevented private communication. In these cases, the remote therapeutic process was seriously hindered.

Even if we get consent from the parents [of a pediatric patient], it is not possible for children to have a whole room to themselves. They can misspeak because the parents are scared that a child will express something negative about the family.... For women, this is when there are scenarios related to domestic violence...

Vulnerable populations also included those with underlying risks that need to be assessed and managed (violence survivors, attempted suicide, etc.), a task that was particularly difficult remotely. This was enough of a concern that four MSF projects providing emergency MH services continued in-person care despite COVID-19 considerations.

iii. The Therapeutic Alliance

...when you have the patient face to face, you can tell by their non-verbal language, what is going on with the patient... So, it helps a lot, it helps a lot to see consistency in what the patient is saying and what you are actually observing

The challenges of MH care provision over the phone or through a screen were described by most respondents. Audio-only remote consultations, a reality for most MSF settings, were often a serious limitation, and managers described some staff even using their own personal smartphones or computers to provide remote video consultations. However, not all felt that way; a few participants described audio-only sessions as advantageous with populations or care providers who may not have been as accustomed to interacting through a screen:

“Some people are not comfortable on camera...because it is a different connection. Like I'm talking to an image – not to a person – and the environment is different. I need to feel comfortable when talking with someone because my own voice, tone, and image are different. We don't have [these things] when we are at an [in-person] session. You go, you see the patient, and we talk.”

Staff Needs and Recommendations

Nearly half of interviewees described the difficulty related to not having protocols or guidelines to advise them on digitally supported MH care. Some described hastily adapting other groups' protocols to fit their patients. Scheduling conflicts and difficulty managing remote appointments, especially with new patients, missed appointments, long sessions, and overtime work for staff (due to increased caseloads, 24/7 availability, and increased session lengths and frequency) were all unexpected challenges that managers felt they could be better prepared for in the future. Most managers were not keen to continue the new remote care models except for “short periods” or for specific patients, especially those who travel long distances to care. Some managers also advised that, moving forward, supervisors should pay better attention to the emotional needs of their team members and encourage teamwork.

Discussion

Although the feasibility and effectiveness of digital MH care provision in low-resource settings has been investigated, none to date has looked at its use in humanitarian environments. In these setting, crisis affected patients may have been exposed to conflict, violence, forced migration, or other extreme conditions³. Our study participants reported that digitally supported services considerably improved access to psychiatric and psychological care for hard-to-reach groups, and found them time and cost-effective when they reduced patient and provider travel and related expenses. These considerations are

particularly important for patients who need to isolate, are migrants, are geographically dispersed, need a clinician with a similar cultural background (such as in refugee settings), or are located in places that are inaccessible to experienced therapists (conflict-affected countries, detention centres, etc).

Although digital MH solutions provided a lifeline to many patients who would have otherwise been entirely cut off from care during the pandemic, these data seem to support prior research showing that the most marginalized and vulnerable patients – those who have the least economic means or education, are very young or old, those that need a translator to speak with their care provider, have severe MH conditions, or have survived abuse – are often not reached by these services or are less engaged when reached²³. Our results even seem to suggest that, in some cases where abuse is present, remote care may place these patients at higher risk of violence when household members have access to privileged conversations or feel threatened by a patient’s relationship with their therapist.

Moving forward, remote MH providers should consider the experience of tele-support projects for survivors of sexual or domestic violence. There, a cautious and non-intrusive approach is standard, and the use of “code” and “safety” words common. A constant regard for patient risk is used, and the patient always controls the content and duration of a therapeutic session.²⁴ It should be noted that for some patients, digital solutions may never be the best fit, and clinicians should not hesitate to encourage an in-person approach if other risks can be managed, as was the case in several MSF MH projects even during the most restricted COVID-19 periods.

It was notable that so many of our respondents doubted the efficacy of digital MH approaches prior to the pandemic and were pleasantly surprised at their facilities’ ability to transition to these platforms. This shows that, even in places with no prior experience using technology to deliver care, and even when substantial infrastructure challenges are present, digitally delivered therapy may be possible for some patients. However, a note of caution should also be added: the infrastructure challenges described in these settings were onerous. Communications networks are often under-developed in low resource settings and absent or severely disrupted during periods of crisis. This was the case in most of our settings, and it is possible that MSF teams’ negative impressions of digital care were partly due to the audio-only sessions that were often their only option. Indeed, previous research has shown that higher sound and video picture quality are associated with greater tele-psychiatry patient acceptance, engagement, and satisfaction^{23,25}. A firm understanding of technical capabilities prior to implementing digital MH solutions, improved devices and connection for both patients and providers, and evidence-based guidance and tools adapted to humanitarian contexts are all needed²⁶.

LIMITATIONS

Our results are limited by the composition of our sample. We were only able to survey and conduct interviews with MH staff, leaving the patient perspective unknown. Future research should capture their satisfaction with digital MH services in these settings. Additionally, all respondents were active MSF staff at the time of their participation and were contacted through their official work email address, though

substantial effort was made to assure confidentiality and investigators' neutrality. Although the response rate for the online survey was good (67.5%) and likely representative of the range of projects in MSF portfolio, qualitative interviews were considered to have reached a point of saturation after IDIs with the first 13 (out of 48) consenting participants. As a result, the sample may overrepresent projects that felt comfortable (or uncomfortable) with the new digital MH services. It likely underrepresents those who were not comfortable participating in English. Respondents were all managers/supervisors, meaning that their answers may have been incomplete or distorted by their own biases, may have been more complementary (or critical) of their own staff or projects, or may have overlooked or misunderstood power dynamics affecting their project. The gender of participants was not collected, so we are unable to say how it may or may not have influenced results.

Conclusion

Digital MH activities were seen as an acceptable and sometimes superior alternative to in-person therapeutic interventions in humanitarian settings during the COVID-19 pandemic lockdowns in 2020. However, they were not considered suitable for all patients, and have the potential to expose some patients to additional risk, especially victims of sexual or interpersonal violence, pediatric and geriatric cases, and patients with severe MH conditions. Audio-only technologies that lacked non-verbal cues were particularly challenging and made risk assessment and emergency care more difficult. Prior to implementing digital MH services, communications infrastructure should be assessed, and comprehensive and context-specific protocols (including clinical training and supervision guidance) should be developed.

Declarations

ETHICAL APPROVAL AND CONSENT TO PARTICIPATE

This study was approved by the MSF internal Ethical Review Board (Protocol ID: 2028). Inclusion was voluntary and required written informed consent. Participants provided permission for use of audio recordings and verbatim quotation.

CONSENT FOR PUBLICATION

Not applicable

AVAILABILITY OF DATA AND MATERIALS

The datasets used in the study are available upon reasonable request to MSF-France's Medical Director via the study's corresponding author.

COMPETING INTERESTS

All authors declare that they have no competing interests.

FUNDING

All staff are paid members of MSF or Epicentre and, as such, conducted this research as part of their respective professional duties. All costs associated with this study were paid for by routine MSF program fees and no external funding was contributed.

AUTHOR'S CONTRIBUTIONS

KI, MP, GK, MC, CC, and AL conceived of and designed the study. KI, MC and GK collected data and conducted quality control during the transcription and translation process. KI, MP, MC and AL were responsible for data analysis including thematic coding and results interpretation. KI, MP, GK and AL provided preliminary reporting and analysis to MSF and Epicentre. GK, CC, GC and the MSF MH Working Group provided technical oversight and review during and after the study. JO prepared the manuscript and provided editorial review. All authors read and approved the final manuscript

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Figures

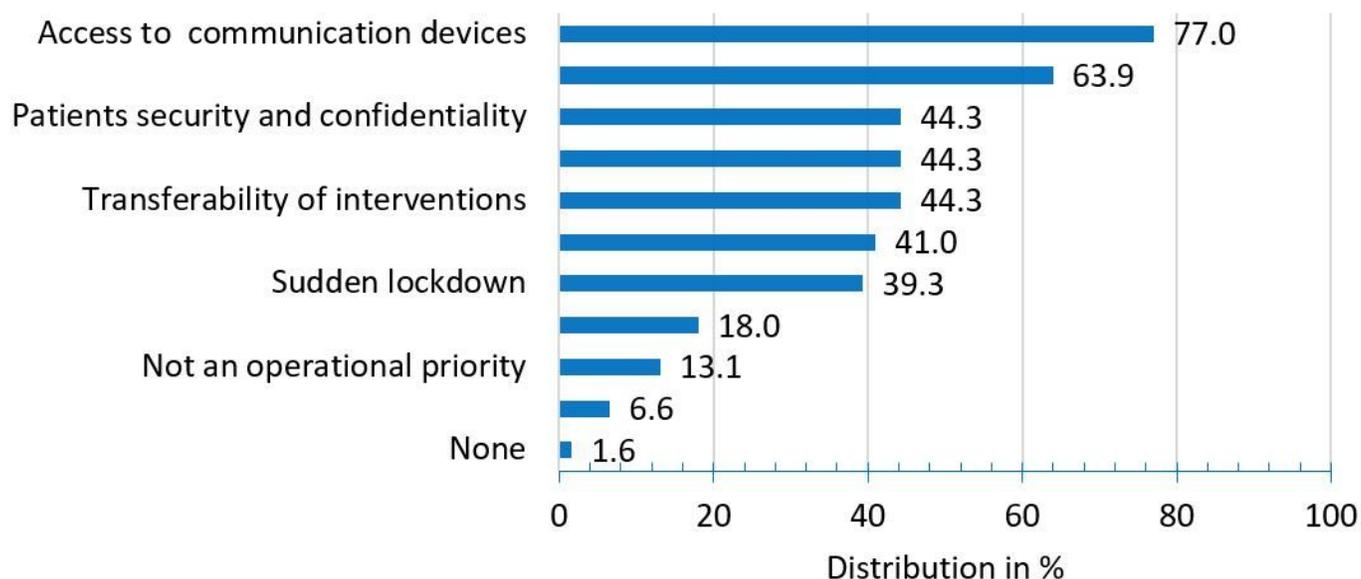


Figure 1

Perceptions of barriers to using digital MH among MSF projects that transitioned to tele-mental health services (n=61)