



RESEARCH ARTICLE

What did you do to stay 'sane' during the pandemic? A qualitative study to identify self-care mental health strategies utilized in a socially vulnerable population [version 1; peer review: awaiting peer review]

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Abstract

Background

Mental health has deteriorated during the COVID-19 pandemic. These impacts are likely to be more severe in socially vulnerable communities. Previous research has identified useful self-help strategies that individuals may use to maintain and improve mental health. However, these studies have typically ignored economically and socially marginalized communities and have used researcher pre-defined practices. Little is known what activities or actions members of poor urban communities from low and middle income countries may utilize to take care of their mental health.

Methods

During March and April 2021, we conducted open-ended interviews with 317 community members in Complexo de Favelas da Maré, Rio de Janeiro, Brazil, one of the largest slum areas in South America. Individuals were interviewed in selected public spaces to provide a representative sample of the wider area. Our sample consisted of 178 (56.1%) cis women, 133 (41.9%) cis men, 3 (0.9%) trans men, and 3 (0.9%) classified themselves as other. The majority of participants had incomplete middle school or less (54.2%) and were between 30 and 60 years (54.1%).

Results

Using thematic analysis, we identified eight major themes in the

responses. The most common themes that emerged were work, leisure activities (including watching TV & physical exercise) and religion/prayer. These findings did not clearly align with previous mental health recommendations. Some results were noteworthy by their absence, e.g., cost-effective mental health practices such as yoga, meditation or mindfulness were not mentioned. Only 4 individuals reported consulting mental health professionals during the pandemic.

Conclusions

Our findings highlight the need for better public health campaigns that disseminate information for effective mental health practices during acute crises, especially for communities that are most vulnerable during public health crises.

Keywords

Self-care, COVID-19, mental health, communication, poverty, low-and-middle-income countries, community

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Introduction

Mental health deteriorated on global scale during the COVID-19 pandemic^{1,2}. In addition to the concerns and fears associated with becoming infected, the pandemic's economic, political, and social consequences have impacted populations, in particular the most socially and economically vulnerable^{2,3}. Many public health campaigns focused on behavioral strategies to control the spread of the virus including physical distancing policies⁴. Although these strategies were effective to reduce the virus transmission, some of these recommendations (in particular social distancing) added an additional burden to mental health⁵⁻⁷.

Campaigns focusing on mental health started in parallel with the public health messages directed to control viral transmissions. Major health associations, such as the World Health Organization (WHO) and the Center of Addiction and Mental Health (CAMH) created guidelines instructing people on activities to minimize adverse mental health consequences during the pandemic^{8,9}. These guidelines emphasized self-care strategies such as eating healthy, keeping active, setting daily routines, meditation and staying in touch with family and friends

A number of reviews and meta-analyses also pointed towards simple and safe strategies that can be adopted by individuals during social distancing and have been shown to improve mental health, reduce anxiety and depression¹⁰. Previous studies have identified effective strategies to maintain and improve mental health during stressful periods by correlating self-reported behaviors with mental health scores^{11,12}, yet little is known about what individuals believe is effective in protecting their mental health and consequently, what activities people engage in to keep themselves healthy. There is an evident disconnection between scientific information on valid or productive habits and behaviors, and what individuals are actually doing. Therefore, our first focus is an explicit exploration of what individuals in socially vulnerable communities reported as having done to maintain or improve their mental health during the COVID-19 pandemic.

Specifically, we studied these beliefs and behaviors in a large urban slum area. Marginalized communities suffer from added mental health burdens, yet their experiences and voices are being largely ignored in the literature. This omission and bias in current research needs to be addressed in order to help public health campaigns more effectively communicate relevant strategies that can be adopted by these vulnerable populations. In the following, we briefly outline the study context and then present the research question.

The study context

Our study population is based in Complexo de Favelas da Maré, Rio de Janeiro, Brazil. Although Brazil is the fifth largest global economy, it is also characterized by strong economic and social inequality, with the highest GINI index within Latin America¹³. Hence, a large section of the population is socially and economically excluded and has been suffering significantly during the pandemic². We are focusing on a population living in one of the largest Favelas (urban slum

areas) in Brazil, which consists of 16 communities with an estimated population of 140,000 residents¹⁴. Poor communities in urban areas commonly known as “Favelas” are territories that emerged in the mid-20th century during rapid urbanization and are identified by overcrowding, with poor health and sanitation standards, and with frequent presence of civilian armed groups¹⁵. Additionally, the population has limited, poorly administered or intermittent access to public services and governance. During a pandemic, the population density and precarious housing structures create particular challenges that would allow following the distancing and isolation recommendations by the authorities¹⁶. Furthermore, many residents have informal work or poor internet connectivity which does not allow telework.

In addition to these pre-existing economic and social demands, mental health needs have become more explicit and intensified during the COVID-19 pandemic. Primary drivers were reduction in employment and income that directly impacted family security; illness due to COVID; mourning of family members or neighbors who passed away and continuing police violence¹⁷.

The research gap

Much of the contemporary mental health and wellbeing research has focused on populations that have reliable internet access, in general from high income countries (HIC) and are well integrated into the socio-economic system of each society. However, about 2.9 billion people who have not been using the internet due to lack of access, and about 96% of these people live in developing countries¹⁸. Importantly, given the prevalence of internet based research on mental health consequences during the pandemic, the perspectives and experiences of those individuals with limited internet access are currently ignored. Therefore, one important goal is to focus on marginalized communities and include their voices in mental health research.

Focusing on the public health actions in the Brazilian context, campaigns to combat the pandemic propagated by the health authorities were aimed at the richest strata of the population. Following international guidelines, these campaigns to control the spread of the virus emphasized social isolation, working from home requiring high-speed internet connection, and the use of hand sanitizers and hand washing as strategies to restrict virus transmission^{7,19,20(p1)}. These recommendations are difficult to meet for residents in favelas as we outlined above. Campaigns focusing on mental health on the other hand emphasized connecting to loved one's via social media and online²¹. Again, these recommendations were challenging for Favela residents. Hence, it becomes important to study and understand which strategies these populations may have used to protect or maintain their mental health.

Our study focuses on perspectives of a population that is often missing in health research. We asked residents in one of the largest Favelas in Brazil to report what they have done to protect their mental health. We used an open interview strategy and did not provide research-derived items that have been

discussed in previous literature. We wanted to identify bottom-up which strategies individuals associate with mental health care and which they have practiced during the pandemic.

Our focus on reported activities that were used to improve one's mental health will also provide information on the knowledge and information gap between the scientific community recommending specific activities as effective and safe and the perspectives of community members. Any discrepancies can be used in future mental health campaigns to increase knowledge and consider strategies to more effectively disseminate low-cost interventions that may benefit residents.

Methods

Ethics and consent

Participants were approached in the main streets and public spaces within the community and asked to identify self-care strategies that they had used to maintain and improve their mental health during the COVID-19 pandemic. No information was collected that could identify individuals after they had completed the interview. Written informed consent was waived. This study was approved by the National Research Ethics Committee (IRB/CONEP) (CAAE - 44180921.5.0000.5249 and 44180821.1.0000.5249).

Sample

From March to April of 2021, an open-ended interview was conducted among residents of the “Complexo da Maré”, a large neglected territory composed of 16 favelas in Rio de Janeiro with more than 140,000 inhabitants. Participants were approached in the main streets and public spaces within the community and asked to identify self-care strategies that they had used to maintain and improve their mental health during the COVID-19 pandemic. All individuals were residents of the Complexo da Maré. No information was collected that could identify individuals after they had completed the interview. Trained interviewers transcribed the responses using tablets, using the REDCap electronic database. This study was approved by the National Research Ethics Committee (IRB/CONEP) (CAAE - 44180921.5.0000.5249 and 44180821.1.0000.5249).

A total of 317 volunteers were included, of which 178 (56.1%) were cis women, 133 (41.9%) were cis men, 3 (0.9%) were trans men, 3 (0.9%) classified themselves as other. We used the Brazilian census categories for self-reported race (via skin color): 130 individuals (41%) identified as mixed (brown), 91 (28.7%) identified as of african descent, 91 (28.7%) were white, 2 (0.6%) were of Asian descent, and 1 (0.31%) identified as indigenous. Thirty (9.4%) volunteers reported not completing formal education, 142 (44.8%) had not completed middle school, 42 (13.2%) completed middle school, 46 (14.5%) had incomplete high school, while 47 (14.8%) finished high middle school. The group of volunteers was composed of 42 (13.3%) people under 30 years of age, 171 (54.1%) between 30 and 60 years, and 103 (32.6%) older than 60 years.

Data collection

Participants were asked to report what they did to take care of their mental health (translated as their ‘mind’ or ‘head’) during the COVID-19 pandemic. The questions were developed collectively, based on meetings with the team in charge of communication and focus groups from the community. Interviewers were community members who were trained by the researchers. During the data collection, interviewers could be identified by t-shirts and badges and collected answers in all the favelas that compose the Complexo da Maré. Interview sites were distributed following a representative sampling strategy aligned with population numbers. Interviewers approached the volunteers on the main streets within each district during business hours and conducted face-to-face interviews in the streets. Participants also reported demographic information such as residence, gender, educational levels, and color/race. Responses were recorded by interviewers into an electronic spreadsheet during the interview process.

Analysis

We used thematic analysis to categorize the open-ended responses provided by participants. Thematic analysis is a qualitative method that recognizes and reports patterns within the data collected²² (see Figure 1 for a conceptual representation of the analytical process). All data²⁷ were read repeatedly by two researchers (BB and MM) and emerging themes were clustered into more concise themes that captured what participants did to maintain their mental health in the pandemic. A first

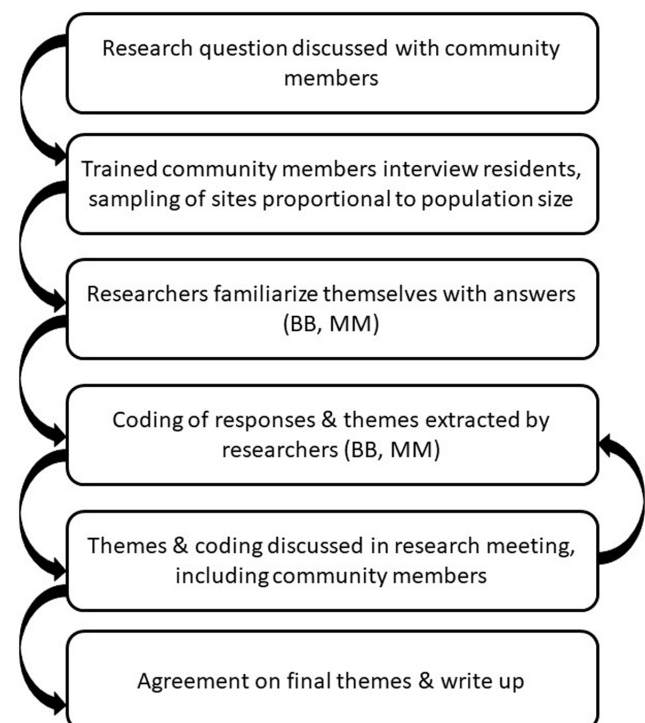


Figure 1. Research and analysis process.

classification was discussed by all authors. After this initial discussion, a number of themes were merged, new themes were added to reflect more accurately key themes and some responses were recorded into different categories. This process continued iteratively until all authors were satisfied with the clarity and precision of each theme.

Results

The final coding included four main themes: *Work*, *Leisure*, *Religion*, and *Others* (which included any answer that did not fit into the three other themes). Each of these main themes included sub-themes (Table 1; Figure 2). Individual responses that could be coded in multiple themes because individuals often reported multiple activities (example: “I read, watch movies and tv shows, and talk to my friends”, cis woman, mixed-heritage, 60–64 y/o).

The most frequently mentioned theme “Work” (33.89%, of responses) included responses that focused on active engagement with physical or mental activities. Three sub themes differentiated this broad category further: “Trade (paid work)”, “Domestic work and Handiwork”, and “Study”. The most common responses in the “Work” theme were related to the “Trade (paid work)” subtheme, which included all the responses associated with making a living through paid work, such as “I work” (cis man, mixed-heritage, 50–54 y/o). Domestic work, in which a person reported pursuing various activities

at home, such as “cleans the house” (cis woman, mixed-heritage, 60–64 y/o) was the second most frequent response with the larger Work theme. Other responses in the Domestic work subcategory included creative activities and crafts (e.g., “I do crochet”, cis woman, white, 45–49 y/o). The last sub-theme captured active engagement with mental activities, either for an ultimate purpose (e.g., study) or for leisure (playful activities that engage the mind). Examples were responses such as “I study” (cis woman, African descent, 20–24 y/o), “I read” (cis man, white, 60–64 y/o), or “I do crossword puzzles ...”, (cis woman, african descent, 50–54 y/o).

The “Leisure” theme was the second most frequent theme (37.36%) and included entertainment activities related to escapism and relaxation. It contained five subthemes: “Entertainment”, “Physical activities”, “Social interactions”, “Outings & travel” and “Games & drinking”. The most frequent subtheme within this larger theme was “Entertainment”. It captured activities in which an individual would consume radio, TV or other entertainment content. Example responses included “I watch TV” (cis woman, mixed-heritage, 55–59 y/o) and “Listen to music” (cis woman, african descent, 45–49 y/o). The second most common response involved physical exercise with an example response “I go to the gym” (cis man, mixed-heritage, 30 – 34 y/o). The third most common subtheme was labelled “Social interactions” and involved face-to-face interactions with friends and family (e.g., “I talk to my friend”, cis man,

Table 1. Main themes identified in the Thematic Analysis.

Main Themes	Description	Subthemes	Examples	Frequency (%)
Work	Activities related to physical or mental labor	Domestic work and Handiwork	“Cleans the house”, “Does crochet”	21 (6.08%)
		Trade	“work”	83 (24.05%)
		Study	“Reads books”	13 (3.76%)
Leisure	Responses consisting of entertainment, escapism and relaxation	Games and Drinking	“I play card games and drink”	9 (2.60%)
		Outings and travels	“I get out of the house”	12 (3.47%)
		Entertainment	“I watch TV”	54 (15.65%)
		Social interactions	“I talk with my friends”	26 (7.53%)
		Physical activities	“I go to the gym”	28 (8.11%)
Religion	Responses related to faith and religion	Faith and prayer	“I pray everyday”, “I seek god”	20 (5.79%)
		Church	“I go to church”	16 (4.63%)
Others	Responses that did not fit in the previous categories	Others	“Therapy”, “I distract myself”	20 (5.79%)
		Avoiding the pandemic	“I’ve stopped watching tv”	10 (2.89%)
		Protection	“I wear masks”	16 (4.63%)
		Doing Nothing	“Nothing”	17 (4.92%)

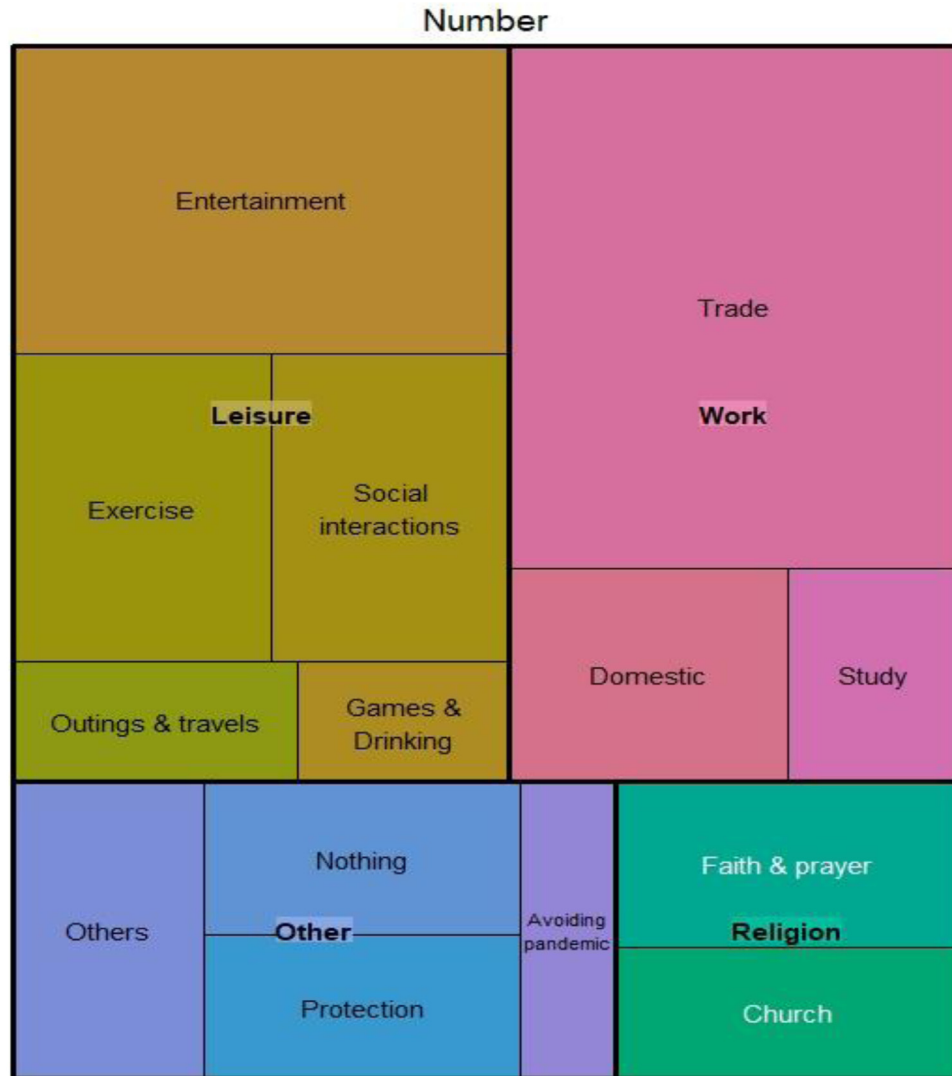


Figure 2. Summary of the main themes.

african descendent, 60–64 y/o). A fourth category was called “Outings & Travel”. This relatively broad theme included activities that involved leaving the place of residence (“I get out of the house”, cis woman, mixed-heritage, 25–29 y/o) as well as travel outside the metropolice area (“travel to Saquarema [rural town]”, cis woman, mixed-heritage, 45–49 y/o). Finally, we included a subtheme which we labelled “Games and Drinking”. This subtheme combined social contact with playing games (typically cards) and drinking, which is a favourite pastime in these communities (e.g., “I play cards with my friends and drink”, cis man, african descendent, 35–39).

The third theme in the responses involved being in contact with god and religion as a form of improving mental health (10.42%). This main theme was divided into two subthemes: “Faith and prayer” and “Church”. The first subtheme included responses referring to personal or private religious

practice (e.g., “reads the bible”, cis man, mixed-heritage, more than 70 y/o; “prays”, cis woman, African descendent 45–49 y/o). The second subtheme involved activities in church as an institutionalized form of religious practice (e.g., “I go to church”, cis woman, african descendent, 55–59 y/o; “I help with social activities in church”, cis man, african descendent, 35–39 y/o).

A miscellaneous theme “Others” (18.23%), contained a number of sub-themes such as “Doing nothing”, “Avoiding the pandemic”, “Protection” and “Other activities”. The subtheme “Doing nothing” typically meant that individuals responded that they were not actively doing anything to maintain or protect their mental health. In contrast, “protection” included responses that were focused on protecting oneself from being infected with the virus, but not specifically geared towards maintaining one’s mental health. We observed that the majority of answers in this category were related to avoiding

people or staying at home, which is not recommended from the point of view of mental health. The sub-theme “Avoiding the pandemic” included answers that indicated that individuals tried not to think or seek information about the pandemic such as avoiding television and other forms of communication that related to the COVID-19 pandemic

The “other activities” subtheme did include some responses that contained both mental and physical health relevant responses (“sunbathing and drinking liquids”, cis woman, white, 30-34 y/o). What was particularly noteworthy were responses referring to taking care of pets (3 responses) and seeking professional help (primarily in therapy, 4 responses).

Discussion

We investigated what individuals in a vulnerable community have done to maintain their mental health during the COVID-19 pandemic. These insights advance our understanding of mental health activities in marginalized populations in a number of directions with direct implications for communication strategies about mental health. As a point of departure, many of the responses included local adaptations and implementations of selected activities that have positive mental health effects. On the other hand, what is equally interesting to observers is what was NOT reported, in that highly effective and low cost activities such as meditation or mindfulness that can improve mental health were not reported by the participants. In the following, we selectively discuss some of these insights gained.

The most frequently reported activity was related to active engagement, working, domestic work or studying. In accordance with the WHO and CAMH guidelines, keeping a routine or adapting it to the current context is essential to maintain a healthy attitude²³. It is noteworthy that the most frequent responses in our interview were associated with the subthemes “Trade” followed by “Entertainment”. Engaging in work means that individuals are keeping a routine, which has been shown to be beneficial for mental health²⁴. More importantly, paid work in this marginalized community implies that individuals and their families can have access to food and basic items. In the pandemic context, social and economic adversities have increased and have a direct effect on mental health. Other authors have reported employment as a protective factor against mental health threats in the context of COVID pandemic in socially vulnerable communities in São Paulo, Brasil. On the other hand, food insecurity and lower monthly income are associated with a higher risk of psychological distress²⁵. This financial aspect is especially significant in vulnerable communities, where people have little possibility of not working or working from home, given the limited life savings and the characteristics of their work, which typically does not allow telework (e.g., cleaning & other services, security, manual labor).

Focusing on the effectiveness of health campaigns, it is worth elaborating on the responses within the “Protection” subtheme.

Many responses related to self isolation, which, although positive in the physical health aspect, are not recommended as a form of maintaining mental health⁷. The official guidelines point to social interactions as a vital part of improving mental health. This highlights that public health communications focused on physical health were quite successful in raising the awareness of social distancing for containing the virus. An example of this is the widely used #FicaEmCasa (#Stayathome) hashtag launched by the most popular TV station in Brazil. However, this focus was initially not accompanied by an equally strong message on mental health. This may be the reason why a considerable number of people answered the questions about mental health as if it was the same as physical protection against the virus. Alternatively, participants may have seen health holistically and did not differentiate between physical and mental recommendations. Regardless of the interpretation, it is important for future interventions to emphasize the difference between physical and mental health interventions and highlight both aspects.

Highlighting some of the complexities of mental health prevention in a pandemic context, the dichotomy between self-protection and the wider social and cultural context can also be seen in the subtheme “Games and drinking”, which is directly opposed to the guidelines’ recommendations, but a central part of social life in these communities. Given the tropical climate and the cramped living conditions, social life in the “favela” is mainly set in the streets. The identified sub theme included activities considered harmful for mental health, such as the use of tobacco, alcohol and other drugs. Yet, these activities were performed in social context, which has obvious positive mental health consequences. We would like to highlight the complexity of social practices which may combine conflicting activities which both improve and undermine mental health. At the same time, it is important to contextualize the number of responses and emphasize that this was the least frequent of all 14 subthemes.

Finally, when considering the broader mental health literature, it is noteworthy that activities identified as helpful in improving mental health were rarely mentioned by the respondents. Responses indicating seeking support from mental health professionals or taking care of pets were noticeably rare (therapy was mentioned 4 times, while pets only 3 times). A considerable number of respondents reported not taking any measures to maintain their mental health and no responses were related to the practice of meditation or mindfulness. This last point is particularly important in the context of our study. Even though these practices are considered efficient forms for improving mental health by the scientific community^{10,24,26} they are not widely disseminated in the community. The low number of responses regarding using therapy or other institutional mental health services were most likely due to the limited access to psychological care in the public health system in these communities. Getting appointments with mental health services is difficult and

mostly limited to treating major psychiatric disorders. Although meditation and mindfulness were not perceived as helpful by respondents, these strategies could be especially impactful in vulnerable communities since they are accessible and cheap ways of improving mental health.

The findings of this study have to be seen in light of some limitations: first the survey was applied to a convenience sample. In this way it is not a representative sample of the larger population and no claims about representativeness of our findings can be made. This may have led to a selection bias since the study was conducted in public spaces and therefore did not include individuals who were socially distancing during this period. The coding by researchers with no lived experience in these communities may have also impacted some of the interpretations that led to specific coding decisions. To overcome these limitations, we consulted community members, but some subtle nuances may have been lost in the coding process. Furthermore, because of how the responses were recorded by interviewers, more elaborated responses were at times summarized as single words and therefore may miss important context. However the investigators tried to reach a consensus through group discussions and liaising with community members.

In conclusion, putting these findings in context, the responses reinforce the need to improve the communication between scientific communities and vulnerable populations. This can be done by creating effective and direct channels of communication between the population and the scientific communities, using accessible language and methods of communication which are widely used by the population, such as locally used social media apps, podcasts and radio. Besides informing the people about mental health strategies, it is also evident from our results that access to mental health services, including telemedicine and online therapy needs urgent attention.

Data availability

Underlying data

Open Science Framework: What did you do to stay 'sane' during the pandemic? A qualitative study to identify self-care

mental health strategies utilized in a socially vulnerable population, <https://doi.org/10.17605/OSF.IO/78EAH27>.

This project contains the following underlying data:

- Mare-osf-data.xlsx (CSV file with the demographic data, open-ended responses & coded responses)

Extended data

Open Science Framework: What did you do to stay 'sane' during the pandemic? A qualitative study to identify self-care mental health strategies utilized in a socially vulnerable population, <https://doi.org/10.17605/OSF.IO/78EAH27>.

This project contains the following extended data:

- Interview questions – rua.docx (in English and Portuguese)
- SRQR_checklist_complete.pdf

Data is available under the terms of the [Creative Commons Zero “No rights reserved” data waiver](#) (CC0 1.0 Public domain dedication).

Author contributions

RF and FAB participated in the design and concept of the study. LA and FAB did the data curation. BB and MM performed the initial data analyses, all authors commented and revised the coding scheme. BB, MM, RF and FAB wrote the first version of the manuscript. RF and FAB supervised the study. RF and FAB are co-seniors and corresponding authors of this manuscript. All authors had full access to data, participated in data interpretation, revised the manuscript, and approved the final version of the manuscript.

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