BMJ Open

When COVID-19 enters in a community setting: An exploratory qualitative study of community perspectives on COVID-19 affecting mental well-being

Journal:	*BMJ Open*
Manuscript ID	bmjopen-2021-049851
Article Type:	Original research
Date Submitted by the Author:	05-Feb-2021
Complete List of Authors:	ali, naureen; The Aga Khan University, Feroz, Anam; Aga Khan University Akber Ali, Noshaba; Aga Khan University Feroz, Rida; Aga Khan University Institute for Educational Development Pakistan Nazim Meghani, Salima; Aga Khan University, Community Health Sciences Saleem, Sarah; Aga Khan University, Community Health Sciences
Keywords:	COVID-19, Public health < INFECTIOUS DISEASES, PRIMARY CARE

I, the Submitting Author has the right to grant and does grant on behalf of all authors of the Work (as defined in the below author licence), an exclusive licence and/or a non-exclusive licence for contributions from authors who are: i) UK Crown employees; ii) where BMJ has agreed a CC-BY licence shall apply, and/or iii) in accordance with the terms applicable for US Federal Government officers or employees acting as part of their official duties; on a worldwide, perpetual, irrevocable, royalty-free basis to BMJ Publishing Group Ltd ("BMJ") its licensees and where the relevant Journal is co-owned by BMJ to the co-owners of the Journal, to publish the Work in this journal and any other BMJ products and to exploit all rights, as set out in our licence.

The Submitting Author accepts and understands that any supply made under these terms is made by BMJ to the Submitting Author unless you are acting as an employee on behalf of your employer or a postgraduate student of an affiliated institution which is paying any applicable article publishing charge ("APC") for Open Access articles. Where the Submitting Author wishes to make the Work available on an Open Access basis (and intends to pay the relevant APC), the terms of reuse of such Open Access shall be governed by a Creative Commons licence – details of these licences and which Creative Commons licence will apply to this Work are set out in our licence referred to above.

Other than as permitted in any relevant BMJ Author's Self Archiving Policies, I confirm this Work has not been accepted for publication elsewhere, is not being considered for publication elsewhere and does not duplicate material already published. I confirm all authors consent to publication of this Work and authorise the granting of this licence.

Paper title:

When COVID-19 enters in a community setting: An exploratory qualitative study of community perspectives on COVID-19 affecting mental well-being

Author names:

- Ms. Naureen Akber Ali[1*] (NAA)
- Ms. Anam Shahil Feroz[2](ASF)
- Ms. Noshaba Akber Ali[3](NBA)
- Ms. Rida Feroz[4](RF)
- Ms. Salima Nazim Meghani[5](SNM)
- Dr Sarah Saleem[6](SS)

Full institutional mailing addresses of all authors

[1]The Aga Khan University – School of Nursing and Midwifery, Stadium Road, PO Box 3500, Karachi 74800, Pakistan

[2,3,5,6]The Aga Khan University – Department of Community Health Sciences, Stadium Road, PO Box 3500, Karachi 74800, Pakistan

[4]Aga Khan University Institute for Educational Development, Karachi, Pakistan

Email addresses:

- Ms. Naureen Akber Ali*[1] - NAA - naureen.akberali@aku.edu
- Ms. Anam Shahil Feroz[2] - AF- anam.sahyl@gmail.com
- Ms. Noshaba Akber Ali[3]- NBA - noshaba.akber07@gmail.com
- Ms. Rida Feroz[4] - RF - ridah.feroz.mphil19@student.aku.edu
- Ms. Salima Nazim Meghani[5] - SNM - salima.ratnani@gmail.com
- Dr Sarah Saleem[6]- SS - sarah.saleem@aku.edu

Corresponding author*:

- Ms. Naureen Akber Ali*[1]-NAA - naureen.akberali@aku.edu

Postal Address: The Aga Khan University – School of Nursing and Midwifery, Stadium Road, PO Box 3500, Karachi 74800, Pakistan

Phone Number: 0213-4865282

Key words: COVID-19, exploratory qualitative study, mental health, community, perceptions

Word count: 4905

Abstract

Objective:

The COVID-19 pandemic has certainly resulted in an increased level of anxiety and fear among the general population related to its management and infection spread. Considering the relevance of present circumstances we explored perceptions and attitudes of community members towards the COVID-19 pandemic and its impact on their mental well-being.

Setting:

We conducted an exploratory qualitative study using a purposive sampling approach, at two communities of Karachi, Pakistan.

Participants:

In-depth interviews were conducted with community members including, young adults, middle-aged adults, and older adults of both genders. Study data was analyzed manually using the thematic analysis technique.

Primary Outcome:

The primary outcome is assessing community perception amidst COVID-19 pandemic and its impacts on community mental health.

Results:

A total of 27 in-depth interviews were conducted, between May and June 2020. Three overarching themes were identified: (I) Impact of COVID-19 on the mental health of the general communities;

(II) Current coping mechanisms to adapt to the new reality; and (III) Recommendations to address the mental health of communities. Generally, community members underwent increased anxiety and fear due to the contagious nature of the virus. Alongside, social, financial, and religious repercussions of the pandemic have also heightened psychological distress among community members. However, community members were able to point out some of the coping mechanisms such as getting closer to God, connecting with family, participating in mental health sessions, and resetting lives by indulging in diverse activities. Simultaneously, they also recommended the need for remote mental health services for elders and continuous efforts by the government to address the mental health needs of the community.

Conclusion:

COVID-19-associated mental health consequences have hit every individual in society. The study finding has the potential to guide the development of context-specific innovative mental health programs to overcome the pandemic repercussions.

Strengths and limitations of this study:

- The mental health impact of the COVID-19 pandemic is likely to last much longer than the physical health impact, and this study is positioned well to explore the perceptions and attitudes of community members towards the pandemic and its impact on their daily lives and mental well-being.
- This study will guide the development of context specific innovative mental health programmes to support communities in the future.

- One limitation is that to minimize the risk of infection all study respondents were interviewed online over Zoom and hence the authors did not have the opportunity to build rapport with the respondents or obtain non-verbal cues during interviews.

BACKGROUND

The current outbreak of COVID-19 has been declared as a Public Health Emergency of International Concern by the World Health Organization [1]. The pandemic has not only incurred massive challenges to the global supply chains and healthcare systems but also has a detrimental effect on the overall health of individuals [2]. The outbreak has led to lockdowns and has created a havoc impact on the societies at large. Most company employees' including daily wage workers have been prohibited from accessing their workplaces or being asked to work from home which has caused job-related insecurities and financial crisis among the communities [3]. Besides, educational institutions have been closed due to which children have lost their routine of going to school, studying, and socializing with their peers [4]. Alongside, parents have been struggling on creating a structured milieu for their children. COVID-19 has hindered the normal routine life of every individual be it children, teenager, adult, or the elderly which may cause florid mental distress [5]. The crisis is engendering a burden throughout the population particularly in developing countries like Pakistan that face major challenges due to the fragile health care systems and poor economic structures[6]

The pandemic has certainly resulted in an increased level of anxiety and fear among the general population related to its management and infection spread [7]. Further, the highly contagious nature of the COVID-19 has also escalated confusion, fear, and panic among the general population. Moreover, social distancing is often an unpleasant experience for the community members that add to mental suffering, particularly in the local setting where get-togethers with friends and families is a major source of entertainment [5]. Recent studies also showed that individuals who are following social distancing experience loneliness causing a substantial level of distress in the form of anxiety, stress, anger, misperception, and post-traumatic stress symptoms [4,

5]. In addition rumors, myths and inaccurate information about COVID-19 are also spreading rapidly with the widespread use of social media and is not only confined to adults but is also carried onto the children that also imposed mental distress [8].

The fear of transmitting disease or family member falling ill is a probable mental function of human nature, but at the same point, psychological fear of the disease generates more anxiety than the disease itself. Therefore, mental health problems are likely to increase in an epidemic situation among community members. Considering the relevance of all the above factors, we explored perceptions and attitudes of community members' towards the COVID-19 pandemic and its impact on their mental well-being.

METHODS

Study design and setting

This study employed an exploratory qualitative research design using semi-structured interviews and a purposive sampling approach. The present study is being reported in reported in accordance with the reporting guidance provided in consolidated criteria for reporting qualitative research as seen in Additional file 1. The study was conducted in two communities of Karachi city. These included Karimabad Federal B Area Block 3 Gulberg Town, Garden East, and Garden West area of Karachi city. Karimabad is a neighborhood in the Karachi-central district of the Karachi, Pakistan. It is situated at the south of Gulberg Town bordering Liaquatabad, Gharibabad, and Federal B Area. The population of this neighborhood is predominantly Ismailis. Garden is an up market neighborhood, which is in the Karachi South district of Karachi, Pakistan. It is subdivided into two neighborhoods: Garden East and Garden West. The population of Garden used to be primarily Ismaili and Goan Catholic but has seen increasing numbers of Memons, Pashtuns and Baloch.

Data Collection Methods and study participants

The data collection methods for this formative research included in-depth interviews (IDIs) with community members. The aim of the IDIs is to explore community perceptions and attitudes, regarding the COVID-19 pandemic and its impact on their mental well-being. Adult community members of different ages and both genders who have not contracted the disease were purposively recruited from both sites, as mentioned in table 1. Participants who refused to give consent to participate in this study were excluded. Also, participants were excluded if they have been tested positive for COVID-19 or have been isolated/quarantined because of recent exposure

Data Collection Procedure

Semi-structured interview guide was developed for community members to explore participants' views towards COVID-19 and understand their perceptions on the mental wellbeing in light of the current situation as mentioned in Additional file 2. The in-depth interviews (IDI) participants were identified and contacted via community WhatsApp group and email. Interviews were scheduled on participants' convenient day and time. Before beginning interview, the study investigators explained the study objectives and procedures to eligible community members. The consent of the eligible participants' was taken before the interview begins, in which participants agreed that the interview can be audio-recorded and written notes can be taken. Trained researchers conducted online qualitative interviews via zoom technology or Skype or WhatsApp call function. The interviews were conducted in either Urdu or English language and each interview lasted around 35 to 45 minutes in duration. Study participants were assured that their information remained confidential and no identifying features will be mentioned on the transcript.

Ethical considerations

Ethical approval for this study was obtained from the Aga Khan University Ethical Review Committee (AKU-ERC) [2020-4825-10599]. Written informed consent was obtained from the study participants.

Data analysis

Study data was analyzed manually using the conventional thematic analysis technique[9]. Firstly, the audio recordings from the interviews were transcribed and then translated into English language. No identifying characteristics were included in the transcriptions. Transcripts were read several times by four research investigators to develop an interpretation of the community perceptions regarding COVID-19 pandemic and its impact on their mental health. This involved an iterative process where data were coded, compared, contrasted, and refined to generate emergent themes. The transcribed text was divided into 'meaning units' which was later shortened and labeled with a 'code' without losing the study context. Codes were then analyzed and grouped into similar categories. In the final step, similar categories were assembled under sub-themes and main themes. Two independent investigators performed the coding, and category creation, and discrepancies were resolved through discussion until a consensus was reached.

RESULTS

In this qualitative study, 27 IDIs were conducted, between May and June 2020, with a variety of community members including, young adults, middle-age adults, and older adults of both genders. Data collection was ceased once saturation was achieved. Out of total 30 participants, (n=27) were agreed to participate in the study. The demographic information for the IDIs participants are illustrated in Table 2.

Based on the data collection and thematic analysis, three overarching themes were identified (I) Impact of COVID-19 on mental health of the general communities; (II) Current coping mechanisms to adapt to the new reality; and (III) Recommendations to address mental health of communities. The themes and categories are presented in Table 3.

Themes 1: Impact of COVID-19 on mental health of the general communities

Increased anxiety and fear:

Community members shared that the perceived_unpredictability associated with COVID-19 has created stress and fear among individuals. Few community people verbalized that explaining and dealing with children's question about the current outbreak has further added anxiety in these difficult times. Some community people shared their concerns that closure of school has led to disruption in learning of children which may have induced anxiety among parents. These all worries and fears have led to a sense of unpredictability about the future, and life after pandemic. Highlighting these points, a respondent stated:

"Obviously there is so much uncertainty about the future … when this will end? How many people will die? How world will look after this pandemic?"(IDI-16)

Another fear that community people stated was the lack of adherence to precautionary measures, which may result in rapid transmission of virus leading to increase number of cases and loss of lives. Some participants also expressed that being more meticulous in complying with all safety measures against COVID-19 has raised their frustration and stress level. Similar thought is discussed by a respondent:

"Even if you go to the grocery shop you need to be extra careful about wearing masks, maintaining distance, cleaning hands … which add to the stress...On the other hand, other people are not following any measures which can eventually get us into trouble". (IDI-20)

While, some community members pointed out that they are frightened or scared because currently there is no treatment or vaccine against COVID-19 to control its rapid transmission. Few community individuals also shared that irrespective of disease exposure, they experience dread and anxiety from falling sick and tend to feel false symptoms of disease within them as one participant verbalized:

"*If you get little flu or a sneeze, it strikes your mind towardsCOVID-19 symptoms. Even on little body ache…one feels like having COVID-19 symptoms". (IDI-19*)

Further, some community members related their fear and anxiety with their risk of getting infection from workplace and transmitting it to their families, particularly elderly, children or people with compromised immune function. Some community people also voiced their concern that many private hospitals have been unable to accept and manage new COVID-19 patients which also induces a panic situation among community members. Expressing similar concerns, a participant revealed:

"I am scared about my family … My father is a chronic kidney patient; his immunity is very low. There is a fear that if he will get infected …Will there be any space in the hospital. Further, how he would go through the entire process as he is already immune-compromised... So, there is a fear of losing my father or losing any other family member" (IDI-25)

Financial hardship amid COVID-19 affecting psychological health:

Many community members mentioned that the current pandemic has affected the global economy which will undoubtedly lead to financial losses impacting individuals financially, mostly daily wages workers. Dialogue with the community people indicated that their business is either on hold or concluded due to which individuals face difficulty in making their ends meet. Some of the community individuals also revealed that they faced layoffs or salary deductions in these challenging times. This has eventually affected the economic conditions of the family and they stated that they will have to start over again to get settled in their lives. Highlighting these points, a respondent stated:

"We have a garment shop and we thought to earn well in Ramadan. But due to COVID-19, the shop was totally closed and we were not able to earn even during the peak time. It seems that we would have to wait for a year to get back to the normal routine". (IDI-17)

Moreover, the financial hardships related with pandemic has translated into widespread emotional distress and increased risk for psychiatric condition. Similar, comments on the experience of mental distress is discussed by a participant:

"Many people have lost their jobs…no money to buy grocery and to run house…These people are suffering from anxiety, and depression. I have heard that few people have attempted suicide because they have no money to survive in this world" (IDI-5)

Restrictions to routine religious practices affecting mental health:

A number of mass prayers and gatherings in religious places are prohibited that was the source of internal satisfaction and get-together for many individuals, resulting in mental sufferings among community people. Community members verbalized that they used to spend their quality time in

the prayer hall to gain strength and positive energy. Highlighting this point, a respondent verbalized

"I miss my prayer hall (Jamat Khana). Closure of prayer hall has been very difficult as there is feeling of incompleteness and dissatisfaction" (IDI-11)

During interviews, many community members also gave insight regarding traditional burial and funeral practices that has been halted due to COVID-19. They shared their concerns that burial practices such as ritual wash (ghusl), shrouding/covering the body (kafan), and funeral prayers could not be performed for the deceased in the current situation. Further, they shared that they are unable to counsel and provide moral support to the bereaved family members. This has heightened their fear and anxiety level and they are scared of dying in this way. This point was illustrated by a respondent who stated:

"I have observed that ritual wash is not given to the death body because of the current situation. I don't want to die like this. I believe burial practices and rituals are so much necessary for the deceased. (IDI-11)

Effects of media on emotions:

Community members mentioned that there is no source of entertainment because all types of media are currently displaying information related to COVID-19 pandemic. Majority of the community members shared that they are uncertain about the source and authenticity of information provided by the media. Highlighting this view, a participant expressed:

"Media has a negative effect. News headlines appearing in red color make us aggressive and anxious as red color affects our brain area. Moreover, there are many political issues in our state due to which media news is unauthentic and I don't rely on it" (IDI-17)

Many individuals shared that the repeated media exposure about COVID-19 has enhanced their psychological distress. They are overwhelmed with misinformation and rumors which impaired their concentration and daily functioning. During the interviews, a community participant shared:

"Media has negatively affected us. Media such as news channel has a devastated impact on everyone particularly senior citizens who are at home. If I talk about my mother in law, shekeeps on watching news and that has disturbed her so much. She is not coming out of this trauma (COVID-19)….. She is not even coming out of her bed or not even meeting anyone due to the influence of media" (IDI-4)

Some community people notified that media can work positively on a larger scale to nurture community well-being but unfortunately no such direction has been witnessed from their end. Many community members reported that they are avoiding mass media use to promote their mental wellbeing and to remain mentally stable. Highlighting this view a participant expressed:

"I don't watch news on media otherwise I will suffer from depression. It is important that we don't watch news and take care of ourselves" (IDI-14)

Effects of social isolation on temperament, feelings and emotions:

Community members highlighted that the major repercussion of the COVID-19 outbreak is a restriction on socialization. The lack of social interaction has substantially influenced the behavior of people. This is evident by greater psychological distress in the form of anxiety, anger, and

irritability that results in increased disputes and domestic violence within the families. Similar feelings revealed by the participant:

"Physical connection has been broken down from relatives and friends. Overall, everyone has become irritable even on minor issues because one cannot go out, vent out their feelings, and meet friends. This has resulted in disputes within the family on small concerns". (IDI-2)

Few people also expressed that working from home is another challenge as you have to show 24/7 availability. This has increased their burden and caused agitation as they find difficulty in balancing their work and home life together. Some participants also verbalized that their fears and increased agitation have resulted in sleep disruptions and restlessness. Highlighting this view a participant expressed:

"Work from home is another stressful thing for me in this pandemic because there is no time limit. Usually, after office hours we are not responsible for any task or to respond back…But now days we have to show our availability every time… even on weekends". (IDI-2)

Theme 2: Current coping mechanisms to adapt to the new reality

Getting closer to God amid COVID-19

A fundamental element in adjusting with these detrimental circumstances is coping. Each individual in the community found their own coping mechanism to deal with COVID-19 pandemic. Majority of the community members shared that in the midst of these challenging times they have come closer to God by spending more time in praying and being connected with supreme power. Few community individuals also expressed that religion and faith give them

strength, and hope to manage current stressful situation. Highlighting this thought a participant discussed:

"People should come closer to their religion. If they will timely perform their prayers then it will automatically reduce more than half of their stress and anxiety" (IDI-22)

Connecting with community members, friends, and relatives:

Social-isolation is an unusual experience for an individual however, supportive environment by the family play a crucial role to cope during the outbreak. Community members shared that lock down and social distancing has positive aspects as well; as families spend more time together. Spending quality time with family and relatives can bring sense of ease and comfort. Further, during these unprecedented times, many families reported use of online technologies to interact with other relatives and friends. Expressing similar thoughts, a participant verbalized:

"In these times, families should get united .....Positive point is that people, who were unable to spend time with their family, are now spending quality time with family. Due to COVID-19, we are sitting together, avoiding mobile phones and doing table talk. BeforeCOVID-19, I was connected with the world. But I had no idea what is happening at my home. COVID-19 has brought this positive change in life" (IDI-17)

Resetting lives amid COVID-19:

Some of the respondents verbalized that setting up a daily routine like indulging in house-hold chores (cleaning and cooking) helped them to spend their time productively. Others highlighted that they spent time on hobbies such as, reading, writing, listening to music, and singing, photography, playing indoor games, performing home workouts (exercises and yoga) to stay active

and motivated. While, some of the individuals utilized their time effectively in distance learning courses and gaining new skills. A participant shared:

"Now a day, I am doing a lot of activities with my daughter. We are doing art work (painting) and learning new kinds of painting. I and my daughter have also learned baking in this lockdown period. Other than that, we are playing different games such as Ludo to keep ourselves busy" (IDI-3)

Participating in mental health programs:

During these difficult times when there is deluge of information on COVID-19, community members stated that there is need to divert their minds by planning strategies and programs that promote their mental wellbeing. Some community people shared that in order to overcome anxiety, fear and stress in this pandemic, mental health programs are initiated by some community leaders and volunteers. These programs were reported to be useful as they guide people to cope in a positive way and are very helpful for those who are depressed and anxious. Highlighting these views a community participant verbalized:

"Last Sunday, I attended a psychologist session on "Mindfulness journey to a peace full life", organized by my community. It was a very good program that guided us on how to be positive. The session focused on issue of anxiety and stress in this pandemic situation. The session helped in developing a sense of optimism and broadening horizon of our perceptions. These different types of sessions are running in our community which are very helpful for us to cope in present time" (IDI-5)

Theme 3: Recommendations to address mental health of communities

Assessing mental health needs of communities

Some community members shared that mental health issues are considered as taboo in our society and people usually avoid talking about it. In that regard, community people pointed out that it is fundamental to assess the mental health needs of the community to plan and design appropriate mental health services. Alongside some community members mentioned that these mental health programs will also be beneficial for the COVID-19 patients and their family members. Highlighting these points, a respondent stated:

"I believe that if there will be any survey or study conducted to understand the effects of COVID-19 on general population … The results of the survey will certainly reveal that COVID-19 has more effects on mental health as compared to the physiology of a person. Therefore, government should conduct the survey and identify the house holds that have mental health issues and should send flyers or brochures that help them in coping" (IDI-15)

Delivering remote mental health interventions for elderly:

Most of the community members expressed that the long-term impact of the pandemic would be stressful for every individual particularly elders who are vulnerable given their weaker immune systems. Some community members conveyed that the current pandemic has called upon great transformation in terms of delivering remote mental health services via using basic technologies such as the telephone, SMS, and radio. However, there is a lack of opportunities to monitor the psychosocial needs of elders and deliver support to them.

"There are different mental health programs and sessions which are organized by our Jamati institutions. But, we are not providing any mental health session for our mass population that is our senior citizens or elder people". (IDI-2)

Role of government to support mental health of communities:

During the interview, community members notified that the government is only providing awareness about COVID-19 and are not focusing on the psychological needs of the community members. Few community individuals also mentioned that no funding is allocated by the government to tackle the mental health challenges of the community in this outbreak. In this context, many community people recommended the need for quality mental health services from the government at the national and provincial levels. Expressing similar views, a participant mentioned:

"Government is not considering mental health issues. The government should start mental health programs which could include online counseling sessions or programs that could lighten the moods of the general population. They can also raise mental health awareness via talk shows or through any other activity…government can use media to raise awareness and conduct mental health programs" (IDI-7)

DISCUSSION

The aim of the current study was to explore perceptions and attitudes of community members towards the COVID-19 pandemic, and its impact on their mental well-being. The study was conducted about four months after the primary episode of the COVID-19 pandemic and two months after the virus hit Pakistan. The research highlighted the mental health challenges faced by

the community members in this unprecedented time, alongside strategies and future recommendations to cope with the current crisis.

The study findings revealed that community participants experienced the feeling of anxiety and chaos due to the outbreak. The individuals' emotional reaction and sense of danger stemmed from their concerns regarding their own health as well as their family members. However, strict compliance on safety measures served as an additional stress on them. Community people were fearful of the increasing number of cases and high mortality rate in the country due to lack of adherence to precautionary measures. This, uncertainty of the pandemic progression and fears to settle down their lives in this disaster caused more mental suffering on them. Recent studies conducted in Italy and Iran also showed similar findings that fear of COVID-19 was considerably associated with depression and anxiety [7, 10].

One of the major repercussions of the COVID-19 outbreak is the social distancing and isolation that have been widely implemented to counter the present crisis. The local government has limited social mobility by employing diverse measures such as closure of schools, colleges' and universities, banned on public gathering, religious places and unessential workplaces, restricting public transportation, travels and limiting social contacts. This has eventually hampered an individual's source of happiness, connectedness, and sense of internal satisfaction [11, 12]. Our study findings showed that community members felt overwhelmed by staying at home and they experienced frustration, agitation/anxiety, boredom, and loneliness due to lack of physical interaction. A systematic review also reported an association between social isolation and loneliness with impaired psychological well-being [5].

The closure of prayer halls and prohibition of congregational funeral prayers during the COVID-19 pandemic was another overwhelming concern for many community members. The study finding showed that community people were distressed as they were unable to bury their loved ones or counsel the deceased family members in accordance with their religious burial rites. This has raised the sense of shock, and pain among individuals in the society and they were scared of dying in such circumstances. Similar evidence was reported by Wallace et al., 2020, families that were unable to grieve in accordance with traditional funeral practices or being unable to attend a loved one's burial undergo a feeling of grief and sorrow [13]

Our study found that the pandemic has caused significant financial disruption among the community members. It was identified that many families were struggling hard in the present time due to financial insecurities including unemployment, and salary deduction. This has caused increased anxiety and depression among families that leads to long-lasting negative mental health consequences. Emerging evidence also suggested similar findings that most of the study participants felt anxious about economic restraint throughout lockdown and nearly one-fourth suffered from depressive symptoms [3]. Further, in the light of the widening financial crisis and unpredictability surrounding this outbreak, suicidal attempts may emerge as one of the emerging threats among the community [14, 15].

Interestingly, the COVID-19 has another challenge in present age of social media. Our study determined that community people being confined to four walls rely on diverse modes of media (electronic and print media, as well as social media) to receive up-to-date information but they often overloaded with false information and rumors. This overwhelming or exaggerated information from the media shaped the risk perception of community members that give rise to epidemic related emotion, creating fear, anxiety, and stress. The finding is consistent with the

studies conducted in China, and India that also related increased frequency of media exposure with the higher anxiety level among the public [16, 17]. Furthermore, comparable finding is also witnessed with the previous outbreak [18].

Although the COVID-19 illness in its first instance seems like a physical health crisis it has devastating repercussions on mental health. However, in this unstable condition, many individuals have adopted diverse lifestyle-related measures to cope with the circumstances and ease the suffering. Many community members took support from their religious practices and beliefs to cope in this stressful time. Literature also reported that community adults considered current stressful time as an opportunity to deepen their spiritual faith or personal connection with God through prayer, meditation and reciting scriptures that nurtures the soul [12].

Further many isolated individuals engaged themselves in diverse tasks or activities to live their best possible life. Many community members carried on their hobbies including painting, reading, writing, listening to music or motivational videos, singing, playing an instrument, cooking, and exercise and learning new skills via online courses to spend their spare time productively. This sort of behavioral activity helped to divert the mind of the person and create positive emotions that enable individuals to bounce back from negative feelings and lessen their psychological distress [19]. Additionally, in the current situation, many families got a chance to spend quality time with each other that brought harmony and positivity within them. This finding is also consistent with the literature [20]

The study finding revealed that the community leaders and volunteers organized different mental health sessions for community people through online medium. These sessions are essential during pandemics as they helped to reduce mental suffering and promoted adaptive coping strategies.

However, participants also notified that there is a lack of provision of mental health services for elderly who lived alone and are now being forced to stay in their homes. Evidence also suggests that vulnerable groups including elders are restricted to their households during the pandemic can have devastating mental health outcomes [21]. The participants also voiced their concerns that government officials are not providing any psychological services to the community on a larger scale.

In this regard, our study also reported some recommendations to address the mental health needs of the communities. Community participants suggested the need of developing mental health assessment tools along with need-based interventions at the national and provincial levels to mitigate long-lasting mental health effects. WHO has also emphasized taking the essential provisions to deal with the psychological consequences of COVID-19 [22]. Our study participants suggested the need for remote mental health programs for the entire community particularly elders via using basic technologies such as the telephone, SMS, and radio. As mentioned by Ho et al., 2020 in this period of innovation, healthcare services can provide remote psychological support services for communities that are affected by the COVID-19[11]. The present study also suggested the need for psychological help lines for mental health counseling related to COVID-19. Recently, the government of India has introduced helpline numbers to deliver guidance and counseling services. Therefore, as suggested by our study that allocation of proper funding by the government is pivotal to provide quality mental health services.

STRENGTH AND LIMITATIONS

This is one of the few studies that have explored community perception regarding COVID-19 and its impact on the mental well-being. This study has some limitations. Given the nature of the

disease, all interviews were conducted online so the researcher was unable to capture the non-verbal cues of participants. Besides, the researcher was unable to perform focus group interviews which would have presented in-depth insight. Lastly, future studies are required to understand the psychological impact of this pandemic on the community across time.

CONCLUSION

This study provides a detailed understanding of community experiences and diverse pandemic-related mental health challenges among young, middle, and older age adults. Moreover, the finding suggests that during the outbreak continuous support for psychosocial well-being in all age groups should be of utmost priority. Additionally, the current disruptive situation calls for the initiation of novel innovative opportunities to provide mental health facilities that foster effective utilization of available resources. The finding of this study guide the development of context-specific mental health programs to overcome the repercussions of the pandemic. These psychological interventions will not only be beneficial in the short term during the COVID-19 pandemic but could offer a long term advantage of strengthening the system.

Abbreviations

IDI: In-depth Interviews, M: Male, F: Female

Acknowledgments

The authors would like to thanks participants for their time.

Authors' contributions

NA&ASF designed the study. ASF, NAA, NBA, RF, and SNM collected the data. NA&ASF analyzed and interpreted the data. NA wrote the first draft of the manuscript. ASF has given critical feedback. All authors contributed to reviewing and editing the manuscript.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Availability of data and materials

The datasets was collected and analyzed and can be made available from the corresponding author on reasonable request.

Ethics approval

Ethical approval for this study was obtained from the Aga Khan University Ethical Review Committee (AKU-ERC) [2020-4825-10599].

Consent for publication

Written informed consent for publication was obtained.

Competing interests

The authors declare that they have no competing interests.

References:

1. WHO, *World Health Organization. Mental health and psychosocial considerations during the COVID-19 outbreak, 18 March 2020.* . 2020.
2. Ebrahim, S.H., et al., *Covid-19 and community mitigation strategies in a pandemic*. 2020, British Medical Journal Publishing Group.
3. Chakraborty, K. and M. Chatterjee, *Psychological impact of COVID-19 pandemic on general population in West Bengal: A cross-sectional study.* Indian Journal of Psychiatry, 2020. **62**(3): p. 266.
4. Zhou, X., et al., *The Role of Telehealth in Reducing the Mental Health Burden from COVID-19.* Telemedicine and e-Health, 2020.
5. Brooks, S.K., et al., *The psychological impact of quarantine and how to reduce it: rapid review of the evidence.* The Lancet, 2020.
6. Van Weel, C., et al., *Primary healthcare policy implementation in South Asia.* BMJ global health, 2016. **1**(2): p. e000057.
7. Soraci, P., et al., *Validation and psychometric evaluation of the Italian version of the Fear of COVID-19 Scale.* International Journal of Mental Health and Addiction, 2020: p. 1-10.
8. Kumar, A. and K.R. Nayar, *COVID 19 and its mental health consequences.* Journal of Mental Health, 2020: p. 1-2.
9. Vaismoradi, M., H. Turunen, and T. Bondas, *Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study.* Nursing & health sciences, 2013. **15**(3): p. 398-405.
10. Ahorsu, D.K., et al., *The fear of COVID-19 scale: development and initial validation.* International journal of mental health and addiction, 2020.
11. Ho, C.S., C.Y. Chee, and R.C. Ho, *Mental health strategies to combat the psychological impact of COVID-19 beyond paranoia and panic.* Ann Acad Med Singapore, 2020. **49**(1): p. 1-3.
12. Koenig, H.G., *Ways of protecting religious older adults from the consequences of COVID-19.* The American Journal of Geriatric Psychiatry, 2020.
13. Wallace, C.L., et al., *Grief during the COVID-19 pandemic: considerations for palliative care providers.* Journal of Pain and Symptom Management, 2020.
14. Lee, S.A., *Coronavirus Anxiety Scale: A brief mental health screener for COVID-19 related anxiety.* Death studies, 2020. **44**(7): p. 393-401.
15. Mamun, M.A. and I. Ullah, *COVID-19 suicides in Pakistan, dying off not COVID-19 fear but poverty?–The forthcoming economic challenges for a developing country.* Brain, behavior, and immunity, 2020.
16. Gao, J., et al., *Mental health problems and social media exposure during COVID-19 outbreak.* Plos one, 2020. **15**(4): p. e0231924.
17. Suryawanshi, R. and V. More, *A study of effect of Corona Virus Covid-19 and lock down on human psychology of Pune City region.* Studies in Indian Place Names, 2020. **40**(70): p. 984-994.
18. Choi, D.-H., et al., *The impact of social media on risk perceptions during the MERS outbreak in South Korea.* Computers in Human Behavior, 2017. **72**: p. 422-431.
19. Polizzi, C., S.J. Lynn, and A. Perry, *STRESS AND COPING IN THE TIME OF COVID-19: PATHWAYS TO RESILIENCE AND RECOVERY.* Clinical Neuropsychiatry, 2020. **17**(2).
20. Kar, S.K., et al., *Coping with mental health challenges during COVID-19*, in *Coronavirus Disease 2019 (COVID-19)*. 2020, Springer. p. 199-213.
21. Armitage, R. and L.B. Nellums, *COVID-19 and the consequences of isolating the elderly.* The Lancet Public Health, 2020. **5**(5): p. e256.
22. Yao, H., J.-H. Chen, and Y.-F. Xu, *Rethinking online mental health services in China during the COVID-19 epidemic.* Asian journal of psychiatry, 2020. **50**: p. 102015.

Table 1 Study participants for In-depth Interviews

In-depth interview Participants	Total IDIs= 27	Male (M)=12; Female (F)=14
Young adults (18 -35 years)	12	Male=6; Female=6
Middle-aged adults (36-55 years)	8	Male=4; Female=4
Older adults (> 55 years)	7	Male=3; Female=4

Table 2: Characteristics of In-depth Interview (IDI) Study Participants (IDI=27)

Characteristics of participants (n=27)		n(%) or mean ± SD
Gender	Female	14 (52.0%)
	Male	13 (48.0%)
Age		39.6 ± 13.9
Education level	Matriculate	1 (4.0 %)
	Intermediate	4 (15.0%)
	Bachelors	13 (48.0%)
	Masters	9 (33.0%)
Occupation	Private Job	15 (56.0%)
	Self-employed	3 (11.0%)
	Home maker	6 (22.0%)
	Student	2 (7.0%)
	Retired	1 (4.0%)

Table 3: Themes and categories

Themes	Categories
Impact of COVID-19 on mental health of the general communities	• Increased anxiety and fear • Financial hardship amid COVID-19 adversely affecting psychological health • Restrictions to routine religious practices affecting mental health • Effects of media on emotions • Effects of social isolation on temperament, feelings and emotions
Current coping mechanisms to adapt to the new reality	• Getting closer to God amid COVID-19 • Connecting online with community members, friends, and relatives • Resetting lives amid COVID-19

	• Participating in mental health programs
Recommendations to address mental health of communities	• Assessing mental health needs of communities • Delivering remote mental health interventions for elderly • Role of government to support mental health of communities

Supplementary Material:

Additional file 1: COREQ 32-ITEM CHECKLIST

No. Item	Guide questions/description	Reported on Page #
Domain 1: Research team and reflexivity		
1. Inter viewer/facilitator	Which author/s conducted the interview?	Page # 7 (Data Collection Procedure)
2. Credentials	What were the researcher's credentials?	Page # 7 (Data Collection Procedure)
3. Occupation	What was their occupation at the time ofthe study?	Page # 7 (Data Collection Procedure)
4. Gender	Was the researcher male or female?	Page # 7 (Data Collection Procedure)
5. Experience and training	What experience or training did the researcher have?	Page # 7 (Data Collection Procedure)
6. Relationship with participants established	Was a relationship established prior to study commencement?	Page # 7 (Data Collection Procedure)
7. Participant knowledge of the interviewer	What did the participants know about the researcher?	Page # 7 (Data Collection Procedure)
8. Interviewer characteristics	What characteristics were reported about the inter viewer/facilitator?	Page # 7 (Data Collection Procedure)
Domain 2: study design		
9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study?	NA
10. Sampling	How were participants selected?	Page # 7 (Data Collection Methods and study participants)
11. Method of approach	How were participants approached?	Page # 7 (Data Collection Procedure)
12. Sample size	How many participants were in the study?	Page # 8 (Result)
13. Non-participation	How many people refused to participate or dropped out? Reasons?	Page # 8 (Result)
14. Setting of data collection	Where was the data collected?	Page # 7 (Data Collection Procedure)
15. Presence of non-participants	Was anyone else present besides the participants and researchers?	Page # 7 (Data Collection Procedure)
16. Description of sample	What are the important characteristics of the sample?	Page # 7; Table 1 (Data Collection Methods and study participants)
17. Interview guide	Were questions, prompts, guides provided by the authors?	Additional file -2 In-Depth Interview Guide for interviewing community members
18. Repeat interviews	Were repeat interviews carried out?	No
19. Audio/visual recording	Did the research use audio or visual recording to collect the data?	Page # 7 (Data Collection Procedure)
20. Field notes	Were field notes made during and/or	Page # 7 (Data Collection Procedure)

	after the interview?	
21. Duration	What was the duration of the interviews	Page # 7 (Data Collection Procedure)
22. Data saturation	Was data saturation discussed?	Page # 8 (Result)
23. Transcripts returned	Were transcripts returned to participants for comment and/or correction?	No
Domain 3: analysis and findings		
24. Number of data coders	How many data coders coded the data?	Page # 8 (Data Analysis)
25. Description of the coding tree	Did authors provide a description of thecoding tree?	NA
26. Derivation of themes	Were themes identified in advance or derived from the data?	Page # 8 & 9 (Result)
27. Software	What software, if applicable, was used to manage the data?	No (manually done) Page # 8 (Data Analysis)
28. Participant checking	Did participants provide feedback on the findings?	No
29. Quotations presented	Were participant quotations presented to illustrate the themes/findings? Waseach quotation identified?	Page # 9-17 (Results)
30. Data and findings consistent	Was there consistency between the datapresented and the findings?	Page # 9-17 (Results)
31. Clarity of major themes	Were major themes clearly presented in the findings?	Page # 9-17 (Results)
32. Clarity of minor themes	Is there a description of diverse cases ordiscussion of minor themes?	Page # 9-17 (Results)

Additional file -2

In-Depth Interview Guide for interviewing community members

Basic Information

S.no	Name (Confidential)	Age	Sex	Occupation	Educational level	Locality/site

General Perception sand knowledge about COVID-19

1. How do you feel about your knowledge level regarding COVID-19 pandemic?
2. How did you learn about the coronavirus outbreak?
3. What is the reliable source of information about COVID-19?

   Probes: social media, television, newspapers/magazines, websites, friends/family, health care professionals
4. What were your initial reactions towards COVID-19, when you first heard about it?
   a. Probes: curse from God etc.
5. What are your thoughts and feelings aboutCOVID-19 cases?

Perceptions on safety measures for preventing COVID-19

1. What safety measures have you taken for yourself and for your family safety in COVID-19?

Probes: hand washing, sanitizer, social distancing, covering your cough, avoiding touching your eyes, nose, and mouth with unwashed hands, wearing a face mask, avoiding close contact with someone who is sick

2. Do you think novel coronavirus will inflict serious damage in your community, if adequate safety measures are not taken?
3. Do you think you can protect yourself against the novel coronavirus?

Perception about fears, anxiety stress and coping about COVID-19

1. How you perceive life during the COVID- pandemic?
    a. Probes: affected daily routine
2. What are your fears and anxieties related to COVID-19?
3. What are the mental health consequences of the COVID-19 lockdown and social isolation you and your family?
4. How the current pandemic has caused stress in life's of people and it has also dramatically affected you and your family? (financial glitches, disputes, jobs)
5. How COVID-19 has influenced your temperament, feelings and emotions?
6. What is the effect of repeated media consumption about COVID-19 in traditional and social media on mental health?
7. How do you cope with anxiety and fear related to COVID-19 pandemic?
8. Do you feel the need of having mental health programs or other measures to overcome anxiety, fear and stress in this pandemic situation?
9. Do you have any suggestions on how government could provide support services for coping with stress related to this crisis situation? (Coping strategies)
10. Currently, what sort of help or support is accessible to you and your family to cope with the pandemic situation?
11. What are the best methods for promoting successful adherence to behavioral advice about COVID-19 while enabling mental wellbeing and minimizing distress?

Future Preparedness

1. In your opinion, what are the needs for future preparedness for any outbreak that prepare community (trainings, awareness, equipment, protective gears)

Supplementary Material:

Additional file 1: COREQ 32---ITEM CHECKLIST

No. Item	Guide questions/description	Reported on Page #
Domain 1: Research team and reflexivity		
1. Inter viewer/facilitator	Which author/s conducted the interview?	Page # 7 (Data Collection Procedure)
2. Credentials	What were the researcher's credentials?	Page # 7 (Data Collection Procedure)
3. Occupation	What was their occupation at the time ofthe study?	Page # 7 (Data Collection Procedure)
4. Gender	Was the researcher male or female?	Page # 7 (Data Collection Procedure)
5. Experience and training	What experience or training did the researcher have?	Page # 7 (Data Collection Procedure)
6. Relationship with participants established	Was a relationship established prior to study commencement?	Page # 7 (Data Collection Procedure)
7. Participant knowledge of the interviewer	What did the participants know about the researcher?	Page # 7 (Data Collection Procedure)
8. Interviewer characteristics	What characteristics were reported about the inter viewer/facilitator?	Page # 7 (Data Collection Procedure)
Domain 2: study design		
9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study?	NA
10. Sampling	How were participants selected?	Page # 7 (Data Collection Methods and study participants)
11. Method of approach	How were participants approached?	Page # 7 (Data Collection Procedure)

12. Sample size	How many participants were in the study?	Page # 8 (Result)
13. Non---participation	How many people refused to participate or dropped out? Reasons?	Page # 8 (Result)
14. Setting of data collection	Where was the data collected?	Page # 7 (Data Collection Procedure)
15. Presence of non---participants	Was anyone else present besides the participants and researchers?	Page # 7 (Data Collection Procedure)
16. Description of sample	What are the important characteristics of the sample?	Page # 7; Table 1 (Data Collection Methods and study participants)
17. Interview guide	Were questions, prompts, guides provided by the authors?	Additional file -2 In-Depth Interview Guide for interviewing community members
18. Repeat interviews	Were repeat interviews carried out?	No
19. Audio/visual recording	Did the research use audio or visual recording to collect the data?	Page # 7 (Data Collection Procedure)
20. Field notes	Were field notes made during and/or after the interview?	Page # 7 (Data Collection Procedure)
21. Duration	What was the duration of the interviews	Page # 7 (Data Collection Procedure)
22. Data saturation	Was data saturation discussed?	Page # 8 (Result)
23. Transcripts returned	Were transcripts returned to participants for comment and/or correction?	No
Domain 3: analysis and findings		
24. Number of data coders	How many data coders coded the data?	Page # 8 (Data Analysis)

25. Description of the coding tree	Did authors provide a description of thecoding tree?	NA
26. Derivation of themes	Were themes identified in advance or derived from the data?	Page # 8 & 9 (Result)
27. Software	What software, if applicable, was used to manage the data?	No (manually done) Page # 8 (Data Analysis)
28. Participant checking	Did participants provide feedback on the findings?	No
29. Quotations presented	Were participant quotations presented to illustrate the themes/findings? Waseach quotation identified?	Page # 9-17 (Results)
30. Data and findings consistent	Was there consistency between the datapresented and the findings?	Page # 9-17 (Results)
31. Clarity of major themes	Were major themes clearly presented in the findings?	Page # 9-17 (Results)
32. Clarity of minor themes	Is there a description of diverse cases ordiscussion of minor themes?	Page # 9-17 (Results)

BMJ Open

When COVID-19 enters in a community setting: An exploratory qualitative study of community perspectives on COVID-19 affecting mental well-being

Journal:	*BMJ Open*
Manuscript ID	bmjopen-2021-049851.R1
Article Type:	Original research
Date Submitted by the Author:	03-Apr-2021
Complete List of Authors:	ali, naureen; The Aga Khan University, Feroz, Anam; Aga Khan University Akber Ali, Noshaba; Aga Khan University Feroz, Rida; Aga Khan University Institute for Educational Development Pakistan Nazim Meghani, Salima; Aga Khan University, Community Health Sciences Saleem, Sarah; Aga Khan University, Community Health Sciences
Primary Subject Heading:	Qualitative research
Secondary Subject Heading:	Mental health, Qualitative research
Keywords:	COVID-19, QUALITATIVE RESEARCH, MENTAL HEALTH

I, the Submitting Author has the right to grant and does grant on behalf of all authors of the Work (as defined in the below author licence), an exclusive licence and/or a non-exclusive licence for contributions from authors who are: i) UK Crown employees; ii) where BMJ has agreed a CC-BY licence shall apply, and/or iii) in accordance with the terms applicable for US Federal Government officers or employees acting as part of their official duties; on a worldwide, perpetual, irrevocable, royalty-free basis to BMJ Publishing Group Ltd ("BMJ") its licensees and where the relevant Journal is co-owned by BMJ to the co-owners of the Journal, to publish the Work in this journal and any other BMJ products and to exploit all rights, as set out in our licence.

The Submitting Author accepts and understands that any supply made under these terms is made by BMJ to the Submitting Author unless you are acting as an employee on behalf of your employer or a postgraduate student of an affiliated institution which is paying any applicable article publishing charge ("APC") for Open Access articles. Where the Submitting Author wishes to make the Work available on an Open Access basis (and intends to pay the relevant APC), the terms of reuse of such Open Access shall be governed by a Creative Commons licence – details of these licences and which Creative Commons licence will apply to this Work are set out in our licence referred to above.

Other than as permitted in any relevant BMJ Author's Self Archiving Policies, I confirm this Work has not been accepted for publication elsewhere, is not being considered for publication elsewhere and does not duplicate material already published. I confirm all authors consent to publication of this Work and authorise the granting of this licence.

Paper title:

When COVID-19 enters in a community setting: An exploratory qualitative study of community perspectives on COVID-19 affecting mental well-being.

Author names:

- Ms. Naureen Akber Ali[1*] (NAA)
- Ms. Anam Shahil Feroz[2](ASF)
- Ms. Noshaba Akber Ali[3](NBA)
- Ms. Rida Feroz[4](RF)
- Ms. Salima Nazim Meghani[5](SNM)
- Dr Sarah Saleem[6](SS)

Full institutional mailing addresses of all authors:

[1]The Aga Khan University – School of Nursing and Midwifery, Stadium Road, PO Box 3500, Karachi 74800, Pakistan

[2,3,5,6]The Aga Khan University – Department of Community Health Sciences, Stadium Road, PO Box 3500, Karachi 74800, Pakistan

[4]Aga Khan University Institute for Educational Development, Karachi, Pakistan

Email addresses:

- Ms. Naureen Akber Ali*[1] - NAA – naureenalimeghani@gmail.com
- Ms. Anam Shahil Feroz[2] - AF- anam.sahyl@gmail.com
- Ms. Noshaba Akber Ali[3]- NBA - noshaba.akber07@gmail.com
- Ms. Rida Feroz[4] - RF - ridah.feroz.mphil19@student.aku.edu
- Ms. Salima Nazim Meghani[5] - SNM - salima.ratnani@gmail.com
- Dr Sarah Saleem[6]- SS - sarah.saleem@aku.edu

Corresponding author*:

- Ms. Naureen Akber Ali*[1]-NAA - naureenalimeghani@gmail.com

Postal Address: The Aga Khan University – School of Nursing and Midwifery, Stadium Road, PO Box 3500, Karachi 74800, Pakistan

Phone Number: 0213-4865282

Keywords: COVID-19, exploratory qualitative study, mental health, community, perceptions

Word count: 5650

ABSTRACT:

Objective:

The COVID-19 pandemic has resulted in an increased level of anxiety and fear among the general population related to its management and infection spread. Considering the relevance of present circumstances, we explored perceptions and attitudes of community members towards their mental well-being during the COVID-19 pandemic

Setting:

We conducted an exploratory qualitative study using a purposive sampling approach, at two communities of Karachi, Pakistan.

Participants:

In-depth interviews were conducted with community members including, young adults, middle-aged adults, and older adults of both genders. Study data were analyzed manually using the thematic analysis technique.

Primary Outcome:

The primary outcome is assessing community perception towards their mental well-being amidst the COVID-19 pandemic.

Results:

A total of 27 in-depth interviews were conducted, between May and June 2020. Three overarching themes were identified: (I) Impact of COVID-19 on the mental health of the general communities; (II) Current coping mechanisms to adapt to the new reality; and (III) Recommendations to address the

mental health of communities. Generally, community members underwent increased anxiety and fear due to the contagious nature of the virus. Alongside, social, financial, and religious repercussions of the pandemic have also heightened psychological distress among community members. However, community members were able to point out some of the coping mechanisms such as getting closer to God, connecting with family, participating in mental health sessions, and resetting lives by indulging in diverse activities. Simultaneously, they also recommended the need for remote mental health services for elders and continuous efforts by the government to address the mental health needs of the community.

Conclusion:

COVID-19-associated mental health consequences have hit every individual in society. The study finding has the potential to guide the development of context-specific innovative mental health programs to overcome the pandemic repercussions.

Strengths and limitations of this study:

- The mental health impact of the COVID-19 pandemic is likely to last much longer than the physical health impact, and this study is positioned well to explore the perceptions and attitudes of community members towards their mental well-being during the COVID-19 pandemic
- This study will guide the development of context-specific innovative mental health programs to support communities in the future.
- To minimize the risk of infection all study respondents were interviewed online and hence the authors did not have the opportunity to build rapport with the respondents or obtain non-verbal cues during interviews.

BACKGROUND:

The current outbreak of COVID-19 has been declared as a Public Health Emergency of International Concern by the World Health Organization (1). The pandemic has not only incurred massive challenges to the global supply chains and healthcare systems but also has a detrimental effect on the overall health of individuals (2). A systematic review finding also showed that high rates of psychological illnesses and symptoms were witnessed in the general population of both developed and developing world during the COVID-19 pandemic(3). The outbreak has led to lockdowns and has created a negative impact on the societies at large. Most company employees' including daily wage workers have been prohibited from accessing their workplaces or being asked to work from home which has caused job-related insecurities and financial crisis among the communities(4). A cross-sectional survey assessed the impact of income loss and social distancing on the quality of life. It was found that almost, 66.9% of the participants faced drastic loss in their household income due to COVID-19 pandemic. Besides, factors such as being female, having chronic diseases and living with family size of 3–5 people were related with lower health-related quality of life (HRQOL) scores (5). Alongside, educational institutions have been closed due to which students have lost their routine of studying and socializing with their peers (6). A study also identified that postgraduate students are associated with a higher level of stress, anxiety, and depression during COVID-19 lockdown (7). While parents have been struggling on creating a structured milieu for their children. COVID-19 has hindered the normal routine life of every individual be it children, teenager, adult, or the elderly which may cause florid mental distress(8). The crisis is engendering a burden throughout the population particularly in developing countries like Pakistan that face major challenges due to the fragile health care systems and poor economic structures (9).

The pandemic has resulted in an increased level of anxiety and fear among the general population related to its management and infection spread (10). Further, the highly contagious nature of the

COVID-19 has also escalated confusion, fear, and panic among the general population. Moreover, social distancing is often an unpleasant experience for the community members that adds to mental suffering, particularly in the local setting where get-togethers with friends and families is a major source of socializing (8). Recent studies also showed that individuals who are following social distancing experience loneliness causing a substantial level of distress in the form of anxiety, stress, anger, misperception, and post-traumatic stress symptoms (6, 8). Also, rumors, myths, and inaccurate information about COVID-19 are spreading rapidly with the widespread use of social media and are not only confined to adults but are also carried onto the children that also causes mental distress (11). Besides, adhering to all precautionary measures such as wearing mask and proper hand hygiene also serve as stressors for the community people. A cross-country study also showed that implementing precautionary measures (covering mouth during coughing and sneezing, wearing a face mask, and hand hygiene) was one of the strongest risk factors of psychological distress among Poland community people (12).

Mental distress related to the COVID-19 pandemic has been widely witnessed across the globe. The massive lockdown is imposing panic, stress, anxiety, fears, and financial insecurities within societies. With the advent of this pandemic in Pakistan, people are restricted at home and are undergoing physical and mental suffering. Moreover, the fear of transmitting disease or family member falling ill is a probable mental function of human nature, but at the same point, psychological fear of the disease generates more anxiety than the disease itself. Therefore, mental health problems are likely to increase in a pandemic situation, and a timely understanding of mental-health status is urgently required for the community people. Thus, considering the relevance of all the above factors, we explored perceptions and attitudes of community members towards their mental well-being during the COVID-19 pandemic. The present study will potentially guide public health policymakers to plan services that

will address the mental health needs of community dwellers which will help to minimize the risk of psychological distress and promote positive coping mechanisms within them.

Research Question:

What are the perceptions and attitudes of community members towards their mental well-being amidst the COVID-19 pandemic?

METHODS:

Study design and setting:

This study employed an exploratory qualitative research design using semi-structured interviews and a purposive sampling approach. The present study is being stated as per the guidance provided in consolidated criteria for reporting qualitative research as seen in Additional file 1. The study was conducted in two communities of Karachi city. These included Karimabad Federal B Area Block 3 Gulberg Town, Garden East, and Garden West area of Karachi city. Karimabad is a neighborhood in the Karachi-central district of Karachi, Pakistan. It is situated at the south of Gulberg Town bordering Liaquatabad, Gharibabad, and Federal B Area. The population of this neighborhood is predominantly Ismailis. Garden is an up-market neighborhood, which is in the Karachi South district of Karachi, Pakistan. It is subdivided into two neighborhoods: Garden East and Garden West. The population of Garden used to be primarily Ismaili and Goan Catholic but has seen increasing numbers of Memons, Pashtuns, and Baloch.

Patient and public involvement:

There was no patient or public involvement in setting the research agenda.

Data Collection Methods and study participants:

The data collection methods for this formative research included in-depth interviews (IDIs) with community members. The aim of the IDIs was to explore community perceptions and attitudes, towards their mental well-being amidst the COVID-19 pandemic. Adult community members who have not contracted the disease were recruited from the urban areas of Karimabad, Garden East, and Garden West, as mentioned in Table 1. The selected participants have an easy access to internet connectivity within their area. We used the purposive sampling technique to ensure that the target population reflected a diverse range of ages, genders, ethnicities, and social backgrounds, as mentioned in Table 2. Participants who refused to give consent to participate in this study were excluded. Also, participants were excluded if they have been tested positive for COVID-19 or have been isolated/quarantined because of recent exposure.

Data Collection Procedure:

Semi-structured interview guide was developed for community members to understand participants perceptions on their mental wellbeing in light of the current situation as mentioned in Additional file 2. The in-depth interviews (IDI) participants were identified and contacted via community WhatsApp group and email. Interviews were scheduled on participants' convenient day and time. Before beginning the interview, the study investigators explained the study objectives and procedures to eligible community members. The consent of the eligible participants was taken before the interview begins, in which participants agreed that the interview can be audio-recorded and written notes can be taken. Trained researchers conducted online qualitative interviews via zoom technology or Skype or WhatsApp call function. The interviews were conducted in either Urdu or English language. Study participants were assured that their information remained confidential, and no identifying features will be mentioned on the transcript.

Ethical considerations:

Ethical approval for this study was obtained from the Aga Khan University Ethical Review Committee (AKU-ERC) [2020-4825-10599]. Written informed consent was obtained from the study participants.

Data analysis:

Study data were analyzed manually using the conventional thematic analysis technique(13). Firstly, the audio recordings from the interviews were transcribed and then translated into the English language. No identifying characteristics were included in the transcriptions. Transcripts were read several times by four research investigators to develop an interpretation of the community perceptions regarding the COVID-19 pandemic and its impact on their mental health. This involved an iterative process where data were coded, compared, contrasted, and refined to generate emergent themes. The transcribed text was divided into 'meaning units' which was later shortened and labeled with a 'code' without losing the study context. Codes were then analyzed and grouped into similar categories. In the final step, similar categories were assembled under sub-themes and main themes. Two independent investigators performed the coding, and category creation and discrepancies were resolved through discussion until a consensus was reached.

RESULTS:

In this qualitative study, 27 IDIs were conducted, between May and June 2020, with a variety of community members including, young adults, middle-aged adults, and older adults of both genders. Data collection was ceased once saturation was achieved. Out of the total of 30 participants, (n=27) were agreed to participate in the study. Each interview lasted around 35 to 45 minutes in duration. The demographic information for the IDIs participants is illustrated in Table 2.

Based on the data collection and thematic analysis, three overarching themes were identified (I) Impact of COVID-19 on the mental health of the general communities; (II) Current coping mechanisms to adapt to the new reality; and (III) Recommendations to address the mental health of communities. The themes and categories are presented in Table 3.

Themes 1: Impact of COVID-19 on the mental health of the general communities:

Increased anxiety and fear:

Community members shared that the perceived unpredictability associated with COVID-19 has created stress and fear among individuals. Few community people verbalized that explaining and dealing with children's questions about the current outbreak has further added anxiety in these difficult times. Some community people shared their concerns that the closure of school has led to disruption in the learning of children which may have induced anxiety among parents. These all worries and fears have led to a sense of unpredictability about the future, and life after the pandemic. Highlighting these points, a respondent stated:

"Obviously there is so much uncertainty about the future … when this will end? How many people will die? How world will look after this pandemic?" (IDI-16)

Another fear that community people stated was the lack of adherence to precautionary measures, which may result in rapid transmission of the virus leading to an increased number of cases and loss of lives. Some participants also expressed that being more meticulous in complying with all safety measures against COVID-19 has raised their frustration and stress level. A similar thought is discussed by a respondent:

"Even if you go to the grocery shop you need to be extra careful about wearing masks, maintaining distance, cleaning hands ... which adds to the stress...On the other hand, other people are not following any measures which can eventually get us into trouble." (IDI-20)

While some community members pointed out that they are frightened or scared because currently there is no treatment or vaccine against COVID-19 to control its rapid transmission. Few community individuals also shared that irrespective of disease exposure, they experience dread and anxiety from falling sick and tend to feel false symptoms of disease within them as one participant verbalized:

"*If you get little flu or a sneeze, it strikes your mind towards COVID-19 symptoms. Even on little body ache…one feels like having COVID-19 symptoms." (IDI-19*)

Further, some community members related their fear and anxiety with their risk of getting an infection from the workplace and transmitting it to their families, particularly the elderly, children, or people with compromised immune function. Some community people also voiced their concern that many private hospitals have been unable to accept and manage new COVID-19 patients which also induces a panic situation among community members. Expressing similar concerns, a participant revealed:

"I am scared about my family ... My father is a chronic kidney patient; his immunity is very low. There is a fear that if he will get infected ...Will there be any space in the hospital. Further, how he would go through the entire process as he is already immune-compromised... So, there is a fear of losing my father or losing any other family member." (IDI-25)

Financial hardship amid COVID-19 affecting psychological health:

Many community members mentioned that the current pandemic has affected the global economy which will undoubtedly lead to financial losses impacting individuals financially, mostly daily wages

workers. Dialogue with the community people indicated that their business is either on hold or concluded due to which individuals face difficulty in making their ends meet. Some of the community individuals also revealed that they faced layoffs or salary deductions in these challenging times. This has eventually affected the economic conditions of the family and they stated that they will have to start over again to get settled in their lives. Highlighting these points, a respondent stated:

"We have a garment shop and we thought to earn well in Ramadan. But due to COVID-19, the shop was closed and we were not able to earn even during the peak time. It seems that we would have to wait for a year to get back to the normal routine." (IDI-17)

Moreover, the financial hardships related to the pandemic have translated into widespread emotional distress and increased risk for a psychiatric condition. Similar, comments on the experience of mental distress are discussed by a participant:

"Many people have lost their jobs…no money to buy grocery and to run house…These people are suffering from anxiety and depression. I have heard that few people have attempted suicide because they have no money to survive in this world." (IDI-5)

Restrictions to routine religious practices affecting mental health:

A number of mass prayers and gatherings in religious places are prohibited which was the source of internal satisfaction and get-together for many individuals, resulting in mental sufferings among community people. Community members verbalized that they used to spend their quality time in the prayer hall to gain strength and positive energy. Highlighting this point, a respondent verbalized

"I miss my prayer hall (Jamat Khana). Closure of prayer hall has been very difficult as there is a feeling of incompleteness and dissatisfaction." (IDI-11)

During interviews, many community members also gave insight regarding traditional burial and funeral practices that has been halted due to COVID-19. They shared their concerns that burial practices such as ritual wash (ghusl), shrouding/covering the body (kafan), and funeral prayers could not be performed for the deceased in the current situation. Further, they shared that they are unable to counsel and provide moral support to the bereaved family members. This has heightened their fear and anxiety level and they are scared of dying in this way. This point was illustrated by a respondent who stated:

"I have observed that ritual wash is not given to the dead body because of the current situation. I don't want to die like this. I believe burial practices and rituals are so much necessary for the deceased." (IDI-11)

Effects of media on emotions:

Community members mentioned that there is no source of entertainment because all types of media are currently displaying information related to the COVID-19 pandemic. Majority of the community members shared that they are uncertain about the source and authenticity of the information provided by the media. Highlighting this view, a participant expressed:

"Media used to entertain us in diverse ways but nowadays all kinds of media are focusing on COVID-19 cases and mortality rates .... further media exaggerate the information about COVID-19 and present to us which has negatively affected us." (IDI-21)

Many individuals shared that the repeated media exposure about COVID-19 has enhanced their psychological distress. They are overwhelmed with misinformation and rumors which impaired their concentration and daily functioning. During the interviews, a community participant shared:

"Media has negatively affected us. Media such as news channel has a devastating impact on everyone particularly senior citizens who are at home. If I talk about my mother-in-law, she keeps on watching the news and that has disturbed her so much. She is not coming out of this trauma (COVID-19) … She is not even coming out of her bed or not even meeting anyone due to the influence of media." (IDI-4)

Some community people notified that media can work positively on a larger scale to nurture community well-being but unfortunately no such direction has been witnessed from their end. Many community members reported that they are avoiding mass media use to promote their mental wellbeing and to remain mentally stable. Highlighting this view, a participant expressed:

"I don't watch the news on media otherwise I will suffer from depression. It is important that we don't watch the news and take care of ourselves." (IDI-14)

Effects of social isolation on temperament, feelings, and emotions:

Community members highlighted that the major repercussion of the COVID-19 outbreak is a restriction on socialization. The lack of social interaction has substantially influenced the behavior of people. This is evident by greater psychological distress in the form of anxiety, anger, and irritability that results in increased disputes and domestic violence within the families. Similar feelings revealed by the participant:

"Physical connection has been broken down from relatives and friends. Overall, everyone has become irritable even on minor issues because one cannot go out, vent out their feelings, and meet friends. This has resulted in disputes within the family on small concerns." (IDI-2)

Few people also expressed that working from home is another challenge as you have to show 24/7 availability. This has increased their burden and caused agitation as they find difficulty in balancing

their work and home life together. Some participants also verbalized that their fears and increased agitation have resulted in sleep disruptions and restlessness. Highlighting this view, a participant expressed:

"Work from home is another stressful thing for me in this pandemic because there is no time limit. Usually, after office hours we are not responsible for any task or to respond back…But nowadays we have to show our availability every time… even on weekends." (IDI-2)

Theme 2: Current coping mechanisms to adapt to the new reality:

Getting closer to God amid COVID-19:

A fundamental element in adjusting to these detrimental circumstances is coping. Each individual in the community found their coping mechanism to deal with the COVID-19 pandemic. Majority of the community members shared that during these challenging times they have come closer to God by spending more time praying and being connected with supreme power. Few community individuals also expressed that religion and faith give them strength, and hope to manage the current stressful situation. Highlighting this thought a participant discussed:

"This pandemic has provided us an opportunity to connect with our religion… people should come closer to their religion. If they will timely perform their prayers, then it will automatically reduce more than half of their stress and anxiety in this crisis time." (IDI-22)

Connecting with community members, friends, and relatives:

Social-isolation is an unusual experience for an individual however, a supportive environment by the family plays a crucial role to cope during the outbreak. Community members shared that lockdown and social distancing have positive aspects as well; as families spend more time together. Spending

quality time with family and relatives can bring a sense of ease and comfort. Further, during these unprecedented times, many families reported the use of online technologies to interact with other relatives and friends. Expressing similar thoughts, a participant verbalized:

"In these times, families should get united ... positive point is that people, who were unable to spend time with their family, are now spending quality time with family. Due to COVID-19, we are sitting together, avoiding mobile phones, and doing table talk. Before COVID-19, I was connected with the world. But I had no idea what is happening at my home. COVID-19 has brought this positive change in life." (IDI-17)

Resetting lives amid COVID-19:

Some of the respondents verbalized that setting up a daily routine like indulging in house-hold chores (cleaning and cooking) helped them to spend their time productively. Others highlighted that they spent time on hobbies such as reading, writing, listening to music, and singing, photography, playing indoor games, performing home workouts (exercises and yoga) to stay active and motivated. While some of the individuals utilized their time effectively in distance learning courses and gaining new skills. A participant shared:

"Now a day, I am doing a lot of activities with my daughter. We are doing the artwork (painting) and learning new kinds of painting. I and my daughter have also learned baking during this lockdown period. Other than that, we are playing different games such as Ludo to keep ourselves busy." (IDI-3)

Participating in mental health programs:

During these difficult times when there is a deluge of information on COVID-19, community members stated that there is a need to divert their minds by planning strategies and programs that promote their mental wellbeing. Some community people shared that to overcome anxiety, fear, and stress in this pandemic, mental health programs are initiated by some community leaders and volunteers. These programs were reported to be useful as they guide people to cope positively and are very helpful for those who are depressed and anxious. Highlighting these views, a community participant verbalized:

"Last Sunday, I attended a psychologist session on "Mindfulness journey to a peace full life", organized by my community. It was a very good program that guided us on how to be positive. The session focused on the issue of anxiety and stress in this pandemic situation. The session helped in developing a sense of optimism and broadening the horizon of our perceptions. These different types of sessions are running in our community which are very helpful for us to cope in present time." (IDI-5)

Theme 3: Recommendations to address the mental health of communities:

Assessing mental health needs of communities:

Some community members shared that mental health issues are considered taboo in our society and people usually avoid talking about them. In that regard, community people pointed out that it is fundamental to assess the mental health needs of the community to plan and design appropriate mental health services. Alongside some community members mentioned that these mental health programs will also be beneficial for the COVID-19 patients and their family members. Highlighting these points, a respondent stated:

"I believe that if there will be any survey or study conducted to understand the effects of COVID-19 on general population ... The results of the survey will certainly reveal that COVID-19 has more

effects on mental health as compared to the physiology of a person. Therefore, the government should conduct the survey and identify the households that have mental health issues and should send flyers or brochures that help them in coping." (IDI-15)

Delivering remote mental health interventions for the elderly:

Most of the community members expressed that the long-term impact of the pandemic would be stressful for every individual particularly elders who are vulnerable given their weaker immune systems. Some community members conveyed that the current pandemic has called upon great transformation in terms of delivering remote mental health services via using basic technologies such as the telephone, SMS, and radio. However, there is a lack of opportunities to monitor the psychosocial needs of elders and deliver support to them.

"There are different mental health programs and sessions which are organized by our Jamati institutions. But we are not providing any mental health session for our mass population that is our senior citizens or elder people." (IDI-2)

Role of government to support the mental health of communities:

During the interview, community members notified that the government is only providing awareness about COVID-19 and are not focusing on the psychological needs of the community members. Few community individuals also mentioned that no funding is allocated by the government to tackle the mental health challenges of the community in this outbreak. In this context, many community people recommended the need for quality mental health services from the government at the national and provincial levels. Expressing similar views, a participant mentioned:

"Government is not considering mental health issues. They should start mental health programs which could include online counseling sessions or programs that could lighten the moods of the general population. They can also raise mental health awareness via talk shows or through any other activity…government can use media to raise awareness and conduct mental health programs." (IDI-7)

DISCUSSION:

The current study aimed to explore the perceptions and attitudes of community members towards their mental well-being in light of the current pandemic. The study was conducted about four months after the primary episode of the COVID-19 pandemic and two months after the virus hit Pakistan. The research highlighted the mental health challenges faced by the community members in this unprecedented time, alongside strategies and future recommendations to cope with the current crisis.

The study findings revealed that community participants experienced the feeling of anxiety and chaos due to the outbreak. The individuals' emotional reaction and sense of danger stemmed from their concerns regarding their health as well as their family members. Evidence also suggests that there is increased anxiety and fear among people that have been in contact with the suspected COVID-19 individuals or with any infected material (14). Community people were fearful of the increasing number of cases and high mortality rate in the country due to lack of adherence to precautionary measures. Literature also pointed out that following precautionary measures, along with the good level of confidence in doctors' diagnosing the COVID-19 virus were found to be protective factors of psychological distress(15). While the uncertainty of the pandemic progression and fears to settle down their lives in this disaster caused more mental suffering on them. Recent studies conducted in Italy and Iran also showed that fear of COVID-19 was associated with depression and anxiety among the general population (10, 16). Similarly, a study conducted on the population of seven middle-income

countries of Asia also showed that participants from Pakistan reported the second-highest scores on depression, anxiety, and stress (DASS-21) tool(17).

One of the major repercussions of the COVID-19 outbreak is the social distancing and isolation that have been widely implemented to counter the present crisis. The local government has limited social mobility by employing diverse measures such as the closure of schools, colleges, and universities, banned on public gatherings, religious places, and unessential workplaces, restricting public transportation, travels, and limiting social contacts. This has eventually hampered an individual's source of happiness, connectedness, and sense of internal satisfaction(18, 19). A study also showed that long home-stay, current quarantine, unnecessary fear, and discrimination were significantly related to the moderate-to-severe level of stress, anxiety, and depression (20). Our study findings showed that community members felt overwhelmed by staying at home and they experienced frustration, agitation/anxiety, boredom, and loneliness due to lack of physical interaction. A systematic review also reported an association between social isolation and loneliness with impaired psychological well-being (8).

The closure of prayer halls and prohibition of congregational funeral prayers during the COVID-19 pandemic was another overwhelming concern for many community members. The study finding showed that community people were distressed as they were unable to bury their loved ones or counsel the deceased family members following their religious burial rites. This has raised the sense of shock, and pain among individuals in the society and they were scared of dying in such circumstances. Similar evidence was reported by Wallace et al., 2020, families that were unable to grieve as per traditional funeral practices or being unable to attend a loved one's burial undergo a feeling of grief and sorrow (21).

Our study found that the pandemic has caused significant financial disruption among the community members. It was identified that many families were struggling hard in the present time due to financial insecurities including unemployment, and salary deduction. This has caused increased anxiety and depression among families that leads to long-lasting negative mental health consequences. Emerging evidence also suggested similar findings that most of the study participants felt anxious about economic restraint throughout lockdown and nearly one-fourth suffered from depressive symptoms(4). Further, in the light of the widening financial crisis and unpredictability surrounding this outbreak, suicidal attempts may emerge as one of the emerging threats among the community(22, 23).

Interestingly, the COVID-19 has another challenge in the present age of social media. Our study determined that community people being confined to four walls rely on diverse modes of media (electronic and print media, as well as social media) to receive up-to-date information, but they are often overloaded with false information and rumors. This overwhelming or exaggerated information from the media shaped the risk perception of community members that give rise to epidemic-related emotion, creating fear, anxiety, and stress. The finding is consistent with the studies conducted in China, and India that also related increased frequency of media exposure with the higher anxiety level among the public (24, 25). Additionally, many community members inferred the presence of physical or somatic symptoms with COVID-19 infection that heightened psychological distress among them. Literature also notified that physical symptoms that resemble with COVID-19 virus were related to a perceived effect of the pandemic and resulted in severe mental health consequences(26).

Although the COVID-19 illness in its first instance seems like a physical health crisis it has devastating repercussions on mental health. However, in this unstable condition, many individuals have adopted diverse lifestyle-related measures to cope with the circumstances and ease the suffering. Many

community members took support from their religious practices and beliefs to cope in this stressful time. Literature also reported that community adults considered current stressful time as an opportunity to deepen their spiritual faith or personal connection with God through prayer, meditation, and reciting scriptures that nurtures the soul (19).

Further many isolated individuals engaged themselves in diverse tasks or activities to live their best possible life. Many community members carried on their hobbies including painting, reading, writing, listening to music or motivational videos, singing, playing an instrument, cooking, and exercise and learning new skills via online courses to spend their spare time productively. This sort of behavioral activity helped to divert the mind of the person and create positive emotions that enable individuals to bounce back from negative feelings and lessen their psychological distress (27). Additionally, in the current situation, many families got a chance to spend quality time with each other that brought harmony and positivity within them. This finding is also consistent with the literature (28).

The study finding revealed that the community leaders and volunteers organized different mental health sessions for community people through online mediums. These sessions are essential during pandemics as they helped to reduce mental suffering and promoted adaptive coping strategies. However, participants also notified that there is a lack of provision of mental health services for elderly who lived alone and are now being forced to stay in their homes. Evidence also suggests that vulnerable groups including elders are restricted to their households during the pandemic can have devastating mental health outcomes(29). The participants also voiced their concerns that government officials are not providing any psychological services to the community on a larger scale.

In this regard, our study also reported some recommendations to address the mental health needs of the communities. Community participants suggested the need of developing mental health assessment tools along with need-based interventions at the national and provincial levels to mitigate long-lasting

mental health effects. WHO has also emphasized taking the essential provisions to deal with the psychological consequences of COVID-19 (30). Our study participants suggested the need for remote mental health programs for the entire community particularly elders via using basic technologies such as the telephone, SMS, and radio. National broadcasting via television or radio is a significant tool to motivate people in present times of hopelessness(31, 32). These platforms can be served as a powerful medium for creating awareness and arranging counseling sessions by different psychiatrists or psychologists. Further, the nationalized TV or radio can also arrange diverse activities (patriotic songs, shows, or movies) that will lessen stress among people and create a sense of unity within them. Similarly, the religious scholars on media can be very helpful to motivate the masses and boost their morale to face crises(32). Therefore, mass-media can be used as an effective information platform that will convey timely health-related messages about pandemic and assist in reducing mental distress (33). Alongside, community service workers can also assist the community by providing authentic health information and education that will lessen their anxiety level(34)**.** The present study also suggested the need for psychological helplines for mental health counseling related to COVID-19. While, in this period of social distancing, introducing innovative medium (telehealth) in healthcare services can also provide effective psychological support services for communities that are affected by the COVID-19 pandemic (35). However, this calls for strategies that will strengthen the operational capacity of the healthcare system i.e. enhance health expert's quality and quantity, provision of proper medical supplies, allocation of administrative staff, and development of training programs(36). Therefore, as suggested by our study participants that allocation of proper funding by the government is pivotal to provide quality mental health services

STRENGTH AND LIMITATIONS:

This is one of the few studies that have explored community perception regarding COVID-19 and its impact on mental well-being. This study has some limitations. Given the nature of the disease, all interviews were conducted online so the researcher was unable to capture the non-verbal cues of participants. Besides, the findings of the present study should be taken as explorative rather than definitive, as all participants were selected from two localities, it would be better to recruit participants from different areas. Further, the researcher was unable to perform focus group interviews which would have presented in-depth insight. Lastly, future studies are required to understand the psychological impact of this pandemic on the community across time.

CONCLUSION:

This study provides a detailed understanding of community experiences and diverse pandemic-related mental health challenges among young, middle, and older age adults in Pakistan. Moreover, the finding suggests that during the outbreak continuous support for psychosocial well-being in all age groups should be of utmost priority. Additionally, the current disruptive situation calls for the initiation of novel innovative opportunities to provide mental health facilities that foster effective utilization of available resources. The finding of this study guides the development of context-specific mental health programs to overcome the repercussions of the pandemic. These psychological interventions will not only be beneficial during the COVID-19 pandemic but could offer a long-term advantage of strengthening the system.

Abbreviations:

IDI: In-depth Interviews, M: Male, F: Female

Acknowledgments:

The authors would like to thanks participants for their time.

Authors' contributions:

NAA & ASF designed the study. ASF, NAA, NBA, RF, and SNM collected the data. NAA &ASF analyzed and interpreted the data. NAA wrote the first draft of the manuscript. ASF & SS has given critical feedback. All authors contributed to reviewing and editing the manuscript.

Funding:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Availability of data and materials:

The datasets were collected and analyzed and can be made available from the corresponding author on reasonable request.

Ethics approval:

Ethical approval for this study was obtained from the Aga Khan University Ethical Review Committee (AKU-ERC) [2020-4825-10599].

Consent for publication:

Written informed consent for publication was obtained.

Competing interests:

The authors declare that they have no competing interests.

Table 1 Study participants for In-depth Interviews

In-depth interview Participants	Total IDIs= 27	Male (M)=12; Female (F)=14
Young adults (18 -35 years)	12	Male=6; Female=6
Middle-aged adults (36-55 years)	8	Male=4; Female=4
Older adults (> 55 years)	7	Male=3; Female=4

Table 2: Characteristics of In-depth Interview (IDI) Study Participants (IDI=27)

Characteristics of participants (n=27)		n(%) or mean ± SD
Gender	Female Male	14 (52.0%) 13 (48.0%)
Age range Mean age	18 -35 years 36-55 years > 55 years	12 (44.4%) 8 (29.6%) 7 (25.9%) 39.6 ± 13.9
Ethnicity	Urdu Speaking Sindhi Gujrati Katchi Punjabi	5 (18.5%) 6 (22.2%) 7 (25.9%) 5 (18.5%) 4 (14.8%)
Marital Status	Single Married	9 (33.3%) 18 (66.6%)
Education level	Matriculate Intermediate Bachelors Masters	1 (4.0 %) 4 (15.0%) 13 (48.0%) 9 (33.0%)
Occupation	Private Job Self-employed Home maker Student Retired	15 (56.0%) 3 (11.0%) 6 (22.0%) 2 (7.0%) 1 (4.0%)

Table 3: Themes and categories

Themes	Categories
Impact of COVID-19 on mental health of the general communities	• Increased anxiety and fear • Financial hardship amid COVID-19 adversely affecting psychological health • Restrictions to routine religious practices affecting mental health • Effects of media on emotions • Effects of social isolation on temperament, feelings and emotions
Current coping mechanisms to adapt to the new reality	• Getting closer to God amid COVID-19 • Connecting online with community members, friends, and relatives • Resetting lives amid COVID-19 • Participating in mental health programs
Recommendations to address mental health of communities	• Assessing mental health needs of communities • Delivering remote mental health interventions for elderly • Role of government to support mental health of communities

REFERENCES:

1. World Health Organization. Mental health and psychosocial considerations during the COVID-19 outbreak, 18 March 2020. World Health Organization.
2. Ebrahim SH, Ahmed QA, Gozzer E, Schlagenhauf P, Memish ZA. Covid-19 and community mitigation strategies in a pandemic. British Medical Journal Publishing Group; 2020.
3. Xiong J, Lipsitz O, Nasri F, Lui LM, Gill H, Phan L, et al. Impact of COVID-19 pandemic on mental health in the general population: A systematic review. Journal of affective disorders. 2020.
4. Chakraborty K, Chatterjee M. Psychological impact of COVID-19 pandemic on general population in West Bengal: A cross-sectional study. Indian Journal of Psychiatry. 2020;62(3):266.
5. Tran BX, Nguyen HT, Le HT, Latkin CA, Pham HQ, Vu LG, et al. Impact of COVID-19 on economic well-being and quality of life of the Vietnamese during the national social distancing. Frontiers in psychology. 2020;11.
6. Zhou X, Snoswell CL, Harding LE, Bambling M, Edirippulige S, Bai X, et al. The Role of Telehealth in Reducing the Mental Health Burden from COVID-19. Telemedicine and e-Health. 2020.
7. Le HT, Lai AJX, Sun J, Hoang MT, Vu LG, Pham HQ, et al. Anxiety and depression among people under the nationwide partial lockdown of Vietnam. Frontiers in public health. 2020;8:656.
8. Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. The Lancet. 2020.
9. van Weel C, Kassai R, Qidwai W, Kumar R, Bala K, Gupta PP, et al. Primary healthcare policy implementation in South Asia. BMJ global health. 2016;1(2):e000057.
10. Soraci P, Ferrari A, Abbiati FA, Del Fante E, De Pace R, Urso A, et al. Validation and psychometric evaluation of the Italian version of the Fear of COVID-19 Scale. International Journal of Mental Health and Addiction. 2020:1-10.
11. Kumar A, Nayar KR. COVID 19 and its mental health consequences. Journal of Mental Health. 2020:1-2.
12. Wang C, Chudzicka-Czupała A, Grabowski D, Pan R, Adamus K, Wan X, et al. The association between physical and mental health and face mask use during the COVID-19 pandemic: a comparison of two countries with different views and practices. Frontiers in psychiatry. 2020;11:901.
13. Vaismoradi M, Turunen H, Bondas T. Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. Nursing & health sciences. 2013;15(3):398-405.
14. Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, et al. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. International journal of environmental research and public health. 2020;17(5):1729.
15. Wang C, Pan R, Wan X, Tan Y, Xu L, McIntyre RS, et al. A longitudinal study on the mental health of general population during the COVID-19 epidemic in China. Brain, behavior, and immunity. 2020;87:40-8.
16. Ahorsu DK, Lin C-Y, Imani V, Saffari M, Griffiths MD, Pakpour AH. The fear of COVID-19 scale: development and initial validation. International journal of mental health and addiction. 2020.

17. Wang C, Tee M, Roy AE, Fardin MA, Srichokchatchawan W, Habib HA, et al. The impact of COVID-19 pandemic on physical and mental health of Asians: A study of seven middle-income countries in Asia. PloS one. 2021;16(2):e0246824.
18. Ho CS, Chee CY, Ho RC. Mental health strategies to combat the psychological impact of COVID-19 beyond paranoia and panic. Ann Acad Med Singapore. 2020;49(1):1-3.
19. Koenig HG. Ways of protecting religious older adults from the consequences of COVID-19. The American Journal of Geriatric Psychiatry. 2020.
20. Tee ML, Tee CA, Anlacan JP, Aligam KJG, Reyes PWC, Kuruchittham V, et al. Psychological impact of COVID-19 pandemic in the Philippines. Journal of affective disorders. 2020;277:379-91.
21. Wallace CL, Wladkowski SP, Gibson A, White P. Grief during the COVID-19 pandemic: considerations for palliative care providers. Journal of Pain and Symptom Management. 2020.
22. Lee SA. Coronavirus Anxiety Scale: A brief mental health screener for COVID-19 related anxiety. Death studies. 2020;44(7):393-401.
23. Mamun MA, Ullah I. COVID-19 suicides in Pakistan, dying off not COVID-19 fear but poverty?–The forthcoming economic challenges for a developing country. Brain, behavior, and immunity. 2020.
24. Gao J, Zheng P, Jia Y, Chen H, Mao Y, Chen S, et al. Mental health problems and social media exposure during COVID-19 outbreak. Plos one. 2020;15(4):e0231924.
25. Suryawanshi R, More V. A study of effect of Corona Virus Covid-19 and lock down on human psychology of Pune City region. Studies in Indian Place Names. 2020;40(70):984-94.
26. Wang C, Chudzicka-Czupała A, Tee ML, Núñez MIL, Tripp C, Fardin MA, et al. A chain mediation model on COVID-19 symptoms and mental health outcomes in Americans, Asians and Europeans. Scientific Reports. 2021;11(1):1-12.
27. Polizzi C, Lynn SJ, Perry A. STRESS AND COPING IN THE TIME OF COVID-19: PATHWAYS TO RESILIENCE AND RECOVERY. Clinical Neuropsychiatry. 2020;17(2).
28. Kar SK, Arafat SY, Kabir R, Sharma P, Saxena SK. Coping with mental health challenges during COVID-19. Coronavirus Disease 2019 (COVID-19): Springer; 2020. p. 199-213.
29. Armitage R, Nellums LB. COVID-19 and the consequences of isolating the elderly. The Lancet Public Health. 2020;5(5):e256.
30. Yao H, Chen J-H, Xu Y-F. Rethinking online mental health services in China during the COVID-19 epidemic. Asian journal of psychiatry. 2020;50:102015.
31. Latif F, Bashir MF, Komal B, Tan D. Role of electronic media in mitigating the psychological impacts of novel coronavirus (COVID-19). Psychiatry research. 2020;289:113041.
32. Mumtaz M. COVID-19 and mental health challenges in Pakistan. International Journal of Social Psychiatry. 2020:0020764020954487.
33. Tran BX, Dang AK, Thai PK, Le HT, Le XTT, Do TTT, et al. Coverage of health information by different sources in communities: implication for COVID-19 epidemic response. International journal of environmental research and public health. 2020;17(10):3577.
34. Le HT, Mai HT, Pham HQ, Nguyen CT, Vu GT, Phung DT, et al. Feasibility of intersectoral collaboration in epidemic preparedness and response at grassroots levels in the threat of COVID-19 pandemic in Vietnam. Frontiers in Public Health. 2020;8:648.
35. Tran BX, Hoang MT, Vo LH, Le HT, Nguyen TH, Vu GT, et al. Telemedicine in the COVID-19 pandemic: Motivations for integrated, interconnected, and community-based health delivery in resource-scarce settings? Frontiers in psychiatry. 2020;11.

36. Tran BX, Hoang MT, Pham HQ, Hoang CL, Le HT, Latkin CA, et al. The operational readiness capacities of the grassroots health system in responses to epidemics: Implications for COVID-19 control in Vietnam. Journal of global health. 2020;10(1).

1

Supplementary Material:

Additional file 1: COREQ 32-ITEM CHECKLIST

No. Item	Guide questions/description	Reported on Page #
Domain 1: Research team and reflexivity		
1. Inter viewer/facilitator	Which author/s conducted the interview?	Page # 8 (Data Collection Procedure)
2. Credentials	What were the researcher's credentials?	Page # 8 (Data Collection Procedure)
3. Occupation	What was their occupation at the time ofthe study?	Page # 8 (Data Collection Procedure)
4. Gender	Was the researcher male or female?	Page # 8 (Data Collection Procedure)
5. Experience and training	What experience or training did the researcher have?	Page # 8 (Data Collection Procedure)
6. Relationship with participants established	Was a relationship established prior to study commencement?	Page # 8 (Data Collection Procedure)
7. Participant knowledge of the interviewer	What did the participants know about the researcher?	Page # 8 (Data Collection Procedure)
8. Interviewer characteristics	What characteristics were reported about the inter viewer/facilitator?	Page # 8 (Data Collection Procedure)
Domain 2: study design		
9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study?	NA
10. Sampling	How were participants selected?	Page # 8 (Data Collection Methods and study participants)
11. Method of approach	How were participants approached?	Page # 8 (Data Collection Procedure)
12. Sample size	How many participants were in the study?	Page # 9 (Result)
13. Non-participation	How many people refused to participate or dropped out? Reasons?	Page # 9 (Result)
14. Setting of data collection	Where was the data collected?	Page # 8 (Data Collection Procedure)
15. Presence of non-participants	Was anyone else present besides the participants and researchers?	Page # 8 (Data Collection Procedure)
16. Description of sample	What are the important characteristics of the sample?	Page # 8; Table 1 (Data Collection Methods and study participants)
17. Interview guide	Were questions, prompts, guides provided by the authors?	Additional file -2 In-Depth Interview Guide for interviewing community members
18. Repeat interviews	Were repeat interviews carried out?	No
19. Audio/visual recording	Did the research use audio or visual recording to collect the data?	Page # 8 (Data Collection Procedure)
20. Field notes	Were field notes made during and/or	Page # 8 (Data Collection Procedure)

	after the interview?	
21. Duration	What was the duration of the interviews	Page # 8 (Data Collection Procedure)
22. Data saturation	Was data saturation discussed?	Page # 9 (Result)
23. Transcripts returned	Were transcripts returned to participants for comment and/or correction?	No
Domain 3: analysis and findings		
24. Number of data coders	How many data coders coded the data?	Page # 9 (Data Analysis)
25. Description of the coding tree	Did authors provide a description of thecoding tree?	NA
26. Derivation of themes	Were themes identified in advance or derived from the data?	Page # 9&10 (Result)
27. Software	What software, if applicable, was used to manage the data?	No (manually done) Page # 9 (Data Analysis)
28. Participant checking	Did participants provide feedback on the findings?	No
29. Quotations presented	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified?	Page # 9-18 (Results)
30. Data and findings consistent	Was there consistency between the data presented and the findings?	Page # 9-18 (Results)
31. Clarity of major themes	Were major themes clearly presented in the findings?	Page # 9-18 (Results)
32. Clarity of minor themes	Is there a description of diverse cases ordiscussion of minor themes?	Page # 9-18 (Results)

Additional file -2

In-Depth Interview Guide for interviewing community members

Basic Information

S.no	Name (Confidential)	Age	Sex	Occupation	Educational level	Locality/site

Perceptions on safety measures for preventing COVID-19

1. What safety measures have you taken for yourself and for your family safety in COVID-19?

Probes: hand washing, sanitizer, social distancing, covering your cough, avoiding touching your eyes, nose, and mouth with unwashed hands, wearing a face mask, avoiding close contact with someone who is sick

2. Do you think novel coronavirus will inflict serious damage in your community, if adequate safety measures are not taken?
3. Do you think you can protect yourself against the novel coronavirus?

Perception about fears, anxiety stress and coping about COVID-19

1. How you perceive life during the COVID- pandemic?
    a. Probes: affected daily routine
2. What are your fears and anxieties related to COVID-19?

3. What are the mental health consequences of the COVID-19 lockdown and social isolation you and your family?
4. How the current pandemic has caused stress in life's of people and it has also dramatically affected you and your family? (financial glitches, disputes, jobs)
5. How COVID-19 has influenced your temperament, feelings and emotions?
6. What is the effect of repeated media consumption about COVID-19 in traditional and social media on mental health?
7. How do you cope with anxiety and fear related to COVID-19 pandemic?
8. Do you feel the need of having mental health programs or other measures to overcome anxiety, fear and stress in this pandemic situation?
9. Do you have any suggestions on how government could provide support services for coping with stress related to this crisis situation? (Coping strategies)
10. Currently, what sort of help or support is accessible to you and your family to cope with the pandemic situation?
11. What are the best methods for promoting successful adherence to behavioral advice about COVID-19 while enabling mental wellbeing and minimizing distress?

Future Preparedness

1. In your opinion, what are the needs for future preparedness for any outbreak that prepare community (trainings, awareness, equipment, protective gears)

Supplementary Material:

Additional file 1: COREQ 32-ITEM CHECKLIST

No. Item	Guide questions/description	Reported on Page #
Domain 1: Research team and reflexivity		
1. Inter viewer/facilitator	Which author/s conducted the interview?	Page # 8 (Data Collection Procedure)
2. Credentials	What were the researcher's credentials?	Page # 8 (Data Collection Procedure)
3. Occupation	What was their occupation at the time ofthe study?	Page # 8 (Data Collection Procedure)
4. Gender	Was the researcher male or female?	Page # 8 (Data Collection Procedure)
5. Experience and training	What experience or training did the researcher have?	Page # 8 (Data Collection Procedure)
6. Relationship with participants established	Was a relationship established prior to study commencement?	Page # 8 (Data Collection Procedure)
7. Participant knowledge of the interviewer	What did the participants know about the researcher?	Page # 8 (Data Collection Procedure)
8. Interviewer characteristics	What characteristics were reported about the inter viewer/facilitator?	Page # 8 (Data Collection Procedure)
Domain 2: study design		
9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study?	NA
10. Sampling	How were participants selected?	Page # 8 (Data Collection Methods and study participants)
11. Method of approach	How were participants approached?	Page # 8 (Data Collection Procedure)
12. Sample size	How many participants were in the study?	Page # 9 (Result)
13. Non-participation	How many people refused to participate or dropped out? Reasons?	Page # 9 (Result)
14. Setting of data collection	Where was the data collected?	Page # 8 (Data Collection Procedure)
15. Presence of non-participants	Was anyone else present besides the participants and researchers?	Page # 8 (Data Collection Procedure)
16. Description of sample	What are the important characteristics of the sample?	Page # 8; Table 1 (Data Collection Methods and study participants)
17. Interview guide	Were questions, prompts, guides provided by the authors?	Additional file -2 In-Depth Interview Guide for interviewing community members
18. Repeat interviews	Were repeat interviews carried out?	No
19. Audio/visual recording	Did the research use audio or visual recording to collect the data?	Page # 8 (Data Collection Procedure)
20. Field notes	Were field notes made during and/or	Page # 8 (Data Collection Procedure)

	after the interview?	
21. Duration	What was the duration of the interviews	Page # 8 (Data Collection Procedure)
22. Data saturation	Was data saturation discussed?	Page # 9 (Result)
23. Transcripts returned	Were transcripts returned to participants for comment and/or correction?	No
Domain 3: analysis and findings		
24. Number of data coders	How many data coders coded the data?	Page # 9 (Data Analysis)
25. Description of the coding tree	Did authors provide a description of thecoding tree?	NA
26. Derivation of themes	Were themes identified in advance or derived from the data?	Page # 9&10 (Result)
27. Software	What software, if applicable, was used to manage the data?	No (manually done) Page # 9 (Data Analysis)
28. Participant checking	Did participants provide feedback on the findings?	No
29. Quotations presented	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified?	Page # 9-18 (Results)
30. Data and findings consistent	Was there consistency between the data presented and the findings?	Page # 9-18 (Results)
31. Clarity of major themes	Were major themes clearly presented in the findings?	Page # 9-18 (Results)
32. Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Page # 9-18 (Results)