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A study on mental health and technology during the COVID-19 pandemic

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Abstract

Background: - This paper examines the effect of the Covid-19 pandemic on the mental health of society and if the use of technology could help curtail this effect. It aims at identifying what mental health problems did people suffer in the pandemic, what technologies they used to overcome it and if they found them effective.

Methods: - This paper is a survey review. The information is based on a questionnaire on Google forms circulated for all people in the age group of 8-78. The questionnaire included questions about what types of mental illness the candidates had or if they had any, what technologies they used and if they helped them to cope with their problems.

Results: - The survey indicates most people went through mental health problems during the pandemic and used some kind of technology to overcome the problems they faced or the needs they felt went unmet leading to better mental health of the individual with use of technology as to not having it.

Keywords: Covid-19, Mental health, technology, pandemic

Introduction

The Covid-19 Pandemic took the world by surprise when it started in China in 2019. Over the course of the next few years, it spread unrelentingly to every corner of the world-affecting people of all ages, gender, races and socio-economic status.

The virus affected everyone in different ways. Besides the obvious effect on physical health, the pandemic and its restrictions had an insidious effect on mental, social and financial health [1]. It has had an effect on all facets of our daily lives including one of the most important and overlooked aspects, Mental Health.

For millions of people, the year of the COVID-19 pandemic represented an annus horribilis, marked by illness, loss, isolation, and unemployment [2].

People all over the world were not only living in fear due to the virus, they also had to drastically change their lifestyles at immediate notice. There were strict quarantine and social distancing measures which isolated people from their friends and families. Many lost their loved ones, their jobs, and had to adapt to new ways of socializing, working and studying.

Many people were stuck in isolation while others were forced to go out during such dangerous times to do the essential tasks that needed to be done. These situations are not at all the norm for human beings, and it has had an adverse effect on us.

People who were trapped in their homes had a whole different set of problems as compared to frontline and healthcare workers who put their and their families' lives on the line on a daily basis.

In these unprecedented times, technology came to the rescue. It helped students continue their studies seamlessly, people work from home, maintain family and social contact, aided in the dissemination of information and resources to needy families.

This study aims to find out how people from all walks of life and in many different situations used technologies available in the modern world to cope with such distressing times and if they had to resort to mental help.

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Objectives

1. To study the effect of Covid-19 pandemic on mental health.
2. To study the use of technology as a tool in the preservation of mental health.
3. To study whether excessive use of technology formed dependencies during the pandemic.

Research Methodology

An Online Survey was designed using Google forms and circulated among groups for people to fill if they wished to participate. Data was collected about their demographic profile, covid status, mental health issues faced, use of technology during pandemic and professional mental help received.

The data was tabulated and analysed qualitatively as well as quantitatively.

Analysis

The Survey received 321 responses, with an age distribution from 8 years to 78 years, with maximum subjects in the range of 40-49 years. Male to female ratio was 57:43%

Table 1.

Age Groups (in years)	Number of Subjects
0-9	1
10-19	18
20-29	18
30-39	18
40-49	119
50-59	100
60-69	29
70-79	18
Grand Total	321

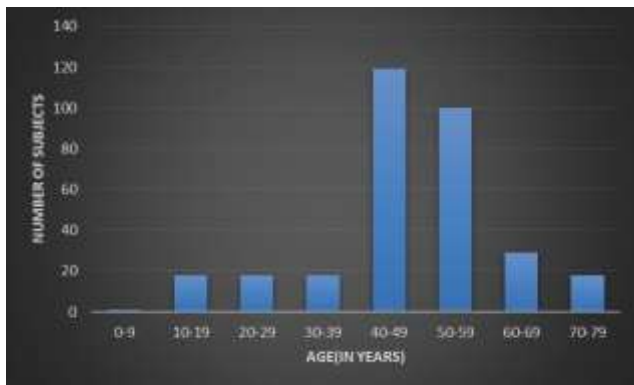


Fig 1: Age Distribution of Subjects

Table 2.

Gender	Number of Subjects
Female	137
Male	184
Grand Total	321

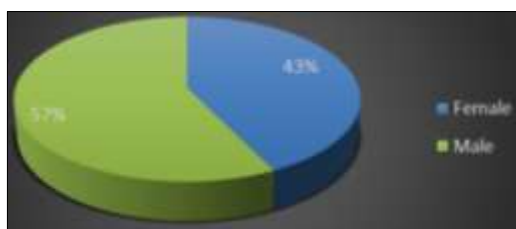


Fig 2: Gender Distribution

Out of the total Subjects, 156(48.6%) did not suffer from Covid-19, 127(39.5%) caught the infection once, 36(11.2%) caught it twice, while two persons (0.6%) suffered from covid three times or more. This indicates that more than half the sample surveyed suffered from covid at least once. Majority of the respondents worked from home during the course of the pandemic (52%). The age distribution of those who worked/studied from home is given in the figure below:

Table 3.

Worked/studied from home	Percentage	Number of persons
No	47.98%	154
Yes	52.02%	167
Grand Total	100.00%	321

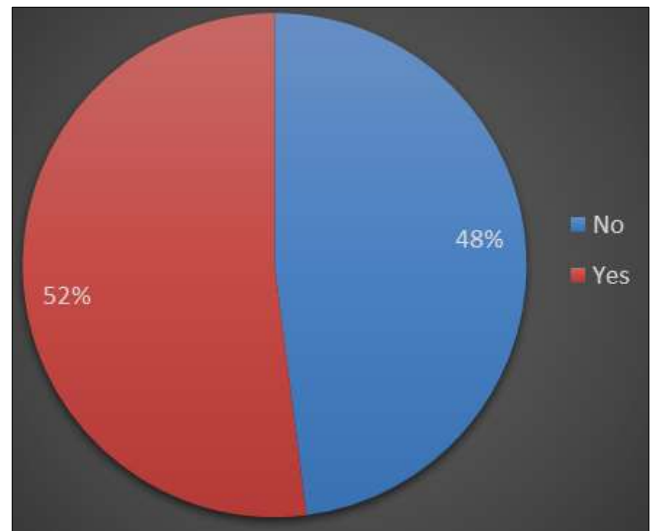


Fig 3: Work/Study from Home

Till the age of 40 years, there was a preponderance of persons who worked or studied from home as they were likely to be students or younger members of the workforce who are mainly engaged in the IT sector. From the age of 40-80 years, we find an almost equitable distribution amongst those who worked from home and did not. This could be due to their engagement in essential services like healthcare, daily needs etc. In our study, we had a large number of respondents who worked in the healthcare sector. As a large majority of people were forced to work or study from home, a number of psychological issues cropped up around the world. Responses were collected as to common mental health problems faced, which are detailed in the figure below. Subjects were allowed to choose one or more of the problems faced.

Table 4.

Mental Health Issue	Number	Percentage
Anxiety	99	30.80%
Depression	40	12.40%
Isolation	78	24.30%
Anger/ Frustration	70	21.80%
Feeling trapped	71	22.10%
Financial Pressure	51	15.90%
None Of The Above	122	38%
Other Psychological issues	15	4.60%

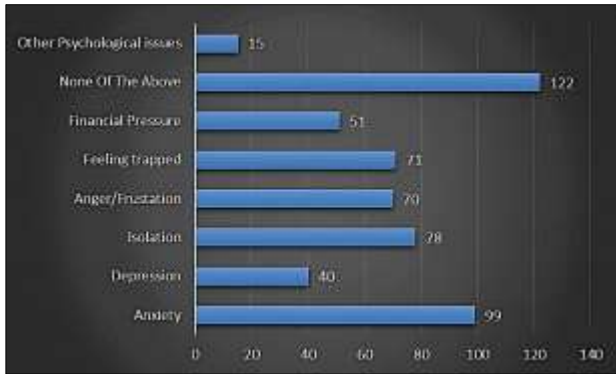


Fig 4: Mental Health Issues Faced

In our study, the majority of respondents reported having one or more psychological problems (62%), while 38% did not have any issues at all.

The commonest problem faced was anxiety, probably due to fear of the pandemic as well as sudden changes in the status quo of life, (professional, social, financial, educational). Many people were separated from their families for long periods of time.

Other common problems faced were Isolation, Feeling Trapped and Anger/ Frustration.

In spite of these issues, the majority of people (Approx. 90%) did not break quarantine to meet their friends and families. Only 10% of people broke Quarantine. This percentage was highest in the age group of 20-29 years (44.5%) and lowest below the age of 10 years and after the age of 60 years (0%). This may be because the youth were feeling trapped and isolated during quarantine and required an active social life. Elderly persons strictly followed quarantine as they were in the high-risk category. Moreover the government had placed elderly persons under extended quarantine. Young children also did not break quarantine as they could not move out independently without their parents.

Table 5.

Did you break Quarantine rules to socialize?	No	Yes	Grand Total
Age Groups(in years)			
0-9	1		1
10-19	16	2	18
20-29	10	8	18
30-39	17	1	18
40-49	105	14	119
50-59	90	10	100
60-69	29		29
70-79	18		18
Grand Total	286	35	321

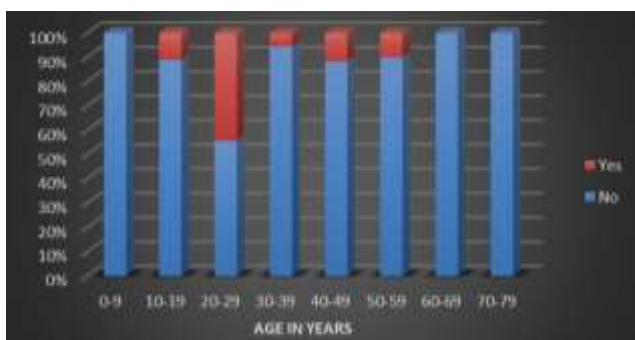


Fig 5: Broke Quarantine

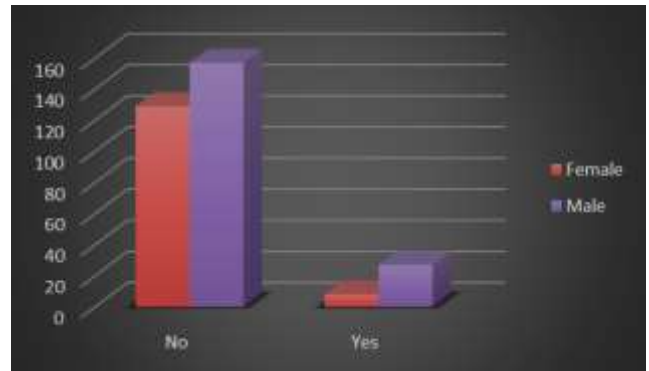


Fig 5: Gender Distribution of Quarantine Breakers

Keeping in mind the isolation faced by people during the pandemic, a question was framed regarding various technologies used to overcome social barriers. However, technologies used only for work and study were not included in the survey. The respondents were allowed to choose more than one option.

Table 6.

Technologies Used	Number	Percentage
Video Calls (Facetime, Zoom, Teams)	218	68%
Social Media (Whatsapp, Facebook, Instagram, etc)	235	73.20%
Online Gaming With Friends	31	9.60%
Online Entertainment (YouTube, Netflix, Prime Video)	203	63.20%
Online Education (Learning new things, Exploring New interests)	140	43.60%
None of The Above	13	4.04%

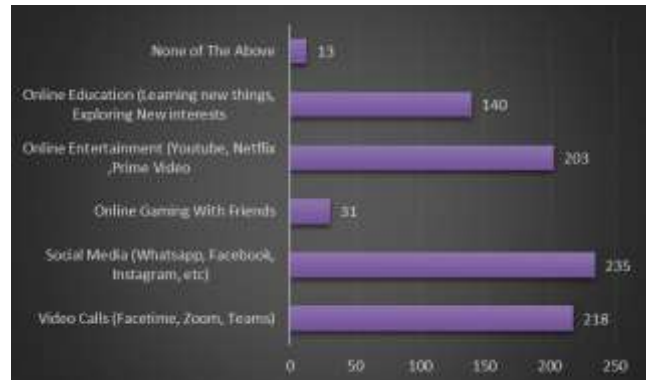


Fig 6: Technologies Used to Overcome Social Barriers

The study reveals 96% of the respondents used technology to overcome social isolation and barriers. The most popular was social media, which fulfilled the role that it was created for- connecting people. Video calling apps like Zoom became highly popular as meeting rooms for friends and family. People also tried allaying their stress and anxiety with online entertainment. A number of people used the extra time on their hands to learn new skills using online education. Our survey clearly brought out the vital role that technology played in maintaining mental and social well-being.

The respondents were asked to grade the usefulness of the technologies used by them on a scale of 1-10(1-not useful, 10-extremely useful).

Most of the subjects found the technologies to be very useful and graded them between 6 and 10 with 8 being the commonest response.

Table 7.

Grade(1-10)	Number of responses
1	7
2	9
3	17
4	13
5	39
6	51
7	56
8	66
9	24
10	39
Grand Total	321

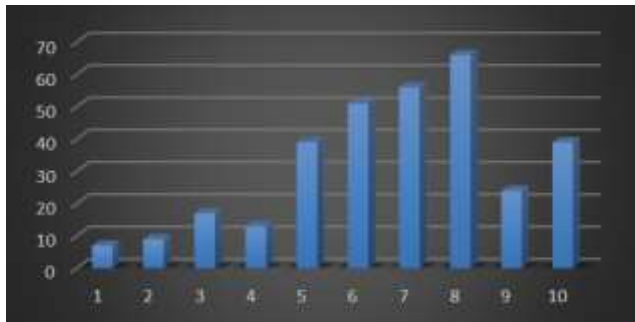


Fig 7: Grading of Effectiveness of Technology (1-10)

On the flipside, excessive use of technology led to people becoming addicted to their devices (36%).

Table 8.

Did you find yourself getting addicted to any of the above Technologies?			
Age Groups in years	No	Yes	Grand Total
0-9		1	1
10-19	5	13	18
20-29	7	11	18
30-39	12	6	18
40-49	79	40	119
50-59	63	37	100
60-69	25	4	29
70-79	12	6	18
Grand Total	203	118	321

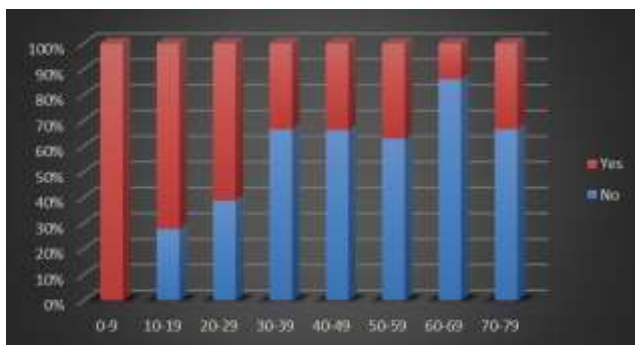


Fig 8: Rates of Addiction to Technology

Analysis of the data shows maximum tendency towards addiction in younger age groups (0-30 years), where it lay between 70-100%. This could be because many of these subjects were students with a lot of spare time on their hands. It is also reflective of a society where the youth have a tendency towards being dependent on their devices. In view of the above mental health issues, the respondents were asked if they had to take counselling or therapy with a

mental health specialist. If yes, did they use online or offline therapy and which was a better fit for them. This was done to assess the role of technology as a therapeutic tool in mental health during the pandemic when physical counselling was difficult to come by.

Table 9.

Row Labels	Count of Did you Ever have to resort to counselling/therapy with a mental health Specialist?
No	305
Offline	8
Online	8
Grand Total	321

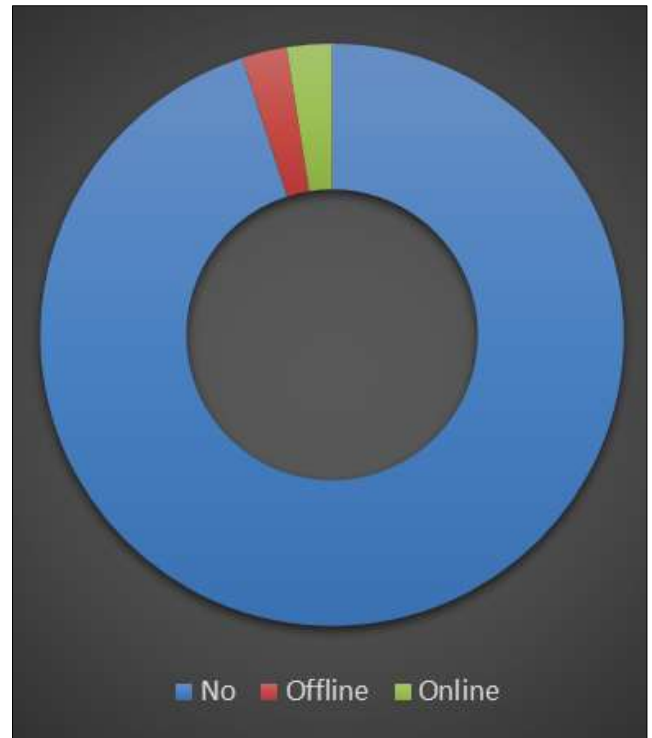


Fig 9: Use of Psychological Counselling

About 5% of the subjects took counselling from a mental health professional, which was split equally between offline and online mode.

Those who took online counselling were asked to grade it on a scale of 1-10(1-not useful,10-extremely useful). Most of the subjects (five out of eight) found online therapy useful and graded it from 8-10. 63% of subjects who took online counselling felt that offline therapy would have been more helpful to them.

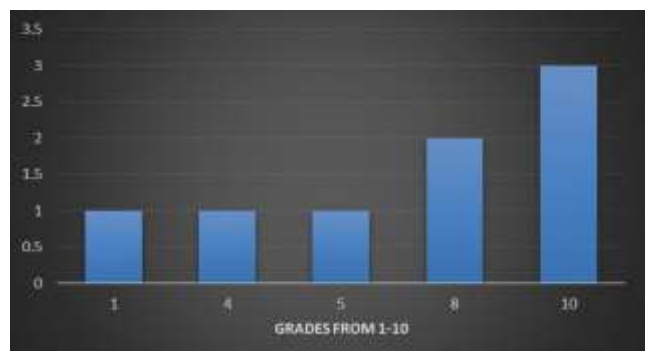


Fig 10: Grading of Usefulness of Online Counselling

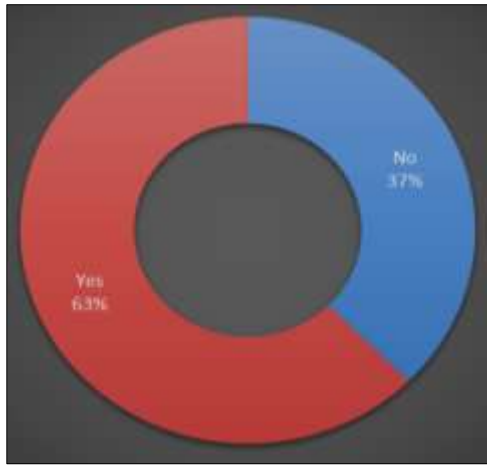


Fig 11: Online vs Offline

Conclusion

The study reveals that the Covid-19 pandemic had a significant effect on the mental health of the population. People of all age groups were affected.

Social Isolation, sudden changes in lifestyle, working and studying from home, coupled with anxiety and fear of the unknown led to multiple psychological issues and financial pressure. This was over and above the toll that COVID-19 took on the physical health of people.

The elderly and children mainly bore the brunt of mental health problems. 62% of respondents reported having issues such as anxiety, depression, isolation, anger, frustration, trapped feeling, financial pressures. About 10% of the sample surveyed broke quarantine rules to overcome social barriers. This increased to almost 45% in the 20-29 years age group.

Discussions surrounding mental health have never been more prominent or vital. After a chaotic two years amidst a global pandemic, rising consumer costs, and a fluid global economic climate, people are exhausted ^[1].

Cross-sectional and longitudinal population surveys during the pandemic have suggested an increase in the frequency or severity of overall “distress,” occupational burnout among healthcare workers and caregivers, virus-focused as well as generalized anxiety, acute stress reactions, post-traumatic stress disorder, addiction, complicated grief, depression, and suicidality ^[3]. This is attributed to many factors, including illness; excessive deaths; the loss of loved ones; limitations on movement ^[3]; increased unemployment and worsening in finances ^[4]; difficulties adjusting to remote work or education; disruptions in access to care; and increased abuse and violence within the home ^[5]. We do not know the extent to which mental health has been affected by the overinflated use of digital media and difficulties with online learning/working during the pandemic, but problems already linked to digital technologies ^[6] may have worsened as screen time exploded, especially for those at risk, including adolescents with internet gaming disorder ^[7] and online gamblers with anxiety and depression ^[8]. In addition, a new industry arose that took advantage of people's increased online accessibility to exploit their fears around the coronavirus through advertising fake cures and other scams ^[9].

As per our study as well, technology became a major tool that helped to connect people. 73% of the respondents were active on social media, while 68% used video calling apps to link up with their friends and families. In the absence of

other forms of entertainment, online gaming and online streaming services became the main source of entertainment for 72.8% of the respondents. Online education (over and above school and college) was also resorted to by many. However 36% of the subjects identified themselves as being addicted to technology due to the situations created by the pandemic.

About 5% of respondents had to take online/offline counselling from a mental health professional to deal with their psychological issues. 63% of those who took online counselling felt that offline counselling would have suited their needs better.

Accompanying the rising rates of reported mental distress during the COVID-19 pandemic has been a reported increase in the use of digital technologies to manage health generally, and mental health more specifically ^[10].

It has been found that Tele-behavioral health can break down barriers and offer more privacy than face-to-face mental health care. Other benefits include: Connecting patients and providers to a wider network regardless of location; Easier, more convenient access to specialists and unique treatments; More opportunity for patients and providers to connect with others who speak the same language or come from a similar cultural background; More confidence in patients who are unwilling to seek out in-person behavioral health treatment, but feel comfortable with telehealth ^[1].

Suggestions/Feedback

Most of the feedback received from the respondents was highly positive – both for the topic and the design of the survey. Many felt that the study was very topical and timely as mental health issues were widespread during the pandemic, however they were ignored to an extent due to their insidious nature.

A lot of strategies were suggested to cope with mental health issues, such as physical exercise, yoga, meditation, music, spending time with family etc. however, these were not included in the survey as it was focused on the role of technology in mental health during the pandemic.

Many healthcare workers suggested to have a special column for them which seems like a valid feedback as the stresses faced by medical professionals were multifold compared to the normal population.

There were many replies suggesting creation of more helplines and online mental health resources in future to deal with such a situation.

In our opinion, although offline, face to face counselling cannot be replaced completely by online counselling; technology is a tool that can help individuals to cope with mental health issues and professionals to deliver better mental health services to those in need.

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