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Special Issue on COVID-19

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Guest Editorial

Resilience-building in Post-COVID Era

[1]S. P. K. Jena

COVID-19 is perhaps one of the deadliest pandemics in human history. With the massive loss of life, the shadow of this pandemic preoccupied the minds of millions of people. Their lives changed dramatically and for some, life has changed 'forever'. The fear of infection, disease, and death, had become the commonplace experiences. In spite of significant distress, these were considered as parts of the new normal. Its impact on the economy, and productivity is immense. Anxiety due to existential crisis, depression due to loss, and obsessive-compulsive disorders due to the dread of infection became the most common mental health issues. Their severity has changed with the dynamics of pandemics across time. Now, some physicians have even started treating COVID as a common cold. Not only that its symptoms are inconsistent, but also in some cases, the 'infected' have no symptoms at all. At times, this has made the dividing line between health and disease much more obscure than ever before. We are yet to understand the disease process. By the time we zero in to share the 'truth' and understand the disease, the new variants of COVID-19 emerge. In fact it is not just the story of an evolving virus, but that of the mankind, evolving with the threat of this pandemic.

A New Window for Research

The present pandemic has opened up a 'new window' for research. Researchers across the world have rushed against clock to map its dynamics. Some have estimated that at least over 200,000 research papers were published in 2020. Now, two years are almost over. It is time to assess how robust our efforts were and see where developments are leading us? (Barrat, 2021). However, the core question that still remains to be answered is: How does the body fall prey to this infection? How does the disease 'choose' its victim? The human body as such, is the host to many viruses, but how does it become prey to some? This is still a mystery, and answers are diverse. 'Immunity' is at its core of it to explore. People search for immunity in nutrition, chemicals, exercises, and also in the tranquility of mind and body. Out of these, the last one is about 'psychological immunity', which is most intriguing and interesting. A healthy mind will have better immunity than the unhealthy ones simply because it is more alert, aware, and, also creative. People experiment on new methods and ways of keeping themselves free from disease and sustaining their growth, in the face of the devastating effects of the pandemic. COVID-19 has opened up a new window for the understanding human behaviour under prolonged stress. Despite the pandemic's adverse effects and economy and occupation new philosophies of survival under crisis have emerged. Some have suffered from trauma and failed to recover from the pandemic stress, others have experience post-traumatic growth and resilience. But the irony is that this positive side of the development is hardly noticed and researched.

This long-term pandemic is a unique phenomenon. This has the same significance for the clinical psychologists, like that of an extraterrestrial event for the astrophysicists, happening once in many years. This is why COVID-19 has become so engaging as a subject of research. This has facilitated not only development of new vaccines, but also opened up new windows for understanding the effects of prolonged stress on human behaviour and developing ways and means for coping with it, which is impossible to study in a controlled laboratory condition. Further, the experimental model of psychopathology based on animal research are often misleading, as it fails to reflect the complexities of the social environment that mediate the disease process.

The 'Perceptual Bias'

A majority of psychological studies are converged on the adverse impact of the pandemic on human behaviour. Very little is spoken on resilience, found in art, literature, music and other forms of human productivity that have emerged in response to the pandemic

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stress during COVID-19 minimizing its potential effect and of course the post-traumatic growth. This has helped to maintain sanity and wellbeing of people. Although, *positive clinical psychology* studying human resilience under stress has already become a distinct force within the discipline, of clinical psychology itself, little research has been directed to these positive developments. The focus on mental illness during the pandemic could be an over selective attention to human vulnerability, a 'perceptual bias'—revealing the tendency to see through a narrow prism of victimhood, that reflects any images of mental illness which is dominated by trauma paradigm. After Vietnam War a new interpretive paradigm emerged for treating shell shock on the basis of the victim's 'perceptual bias' for trauma-related themes. Very little systematic study has been conducted so far to examine the ways and means of post-traumatic growth. These stories of resilience and coping of the COVID warriors and its victims are heard much lesser than that of trauma and disease.

Resilience Building

Resilience building has much to do with internal generation of meaning and sense of self, fulfillment in life and ensuring continued growth in the face of traumatic stress. Therefore, instead of just treating the symptoms of pandemic-related mental disorders ensuring positive growth in people has become a legitimate concern for the clinical psychologists. In Eastern cultures, the social support system is much more effective and durable than the West. Therefore, this has become important to remain connected with people, explore positivity in life, and most important task is to maintain it.

Now, we witness the omicron and other new variants of COVID-19, and with this, return of the mental health issues, even if its effect may not be so serious like its initial phase. Simultaneously, we also witness the tendency to develop resilience as a 'shield' against it, as a psychological immunity. It serves as a 'marker' of post-traumatic growth. Sensory isolation studies and studies on solitary confinement of animals reveal confinement-induced stress initially enhances extraordinary neural growth before the cells degenerate due to stress. These observations entail a possibility of psychobiological growth under traumatic stress. Human conditions are much different than that of the animals due to the much-evolved instrumental responses and the social environment that moderate stress response. Unlike the laboratory animals, the human beings have much freedom to select their responses to diffuse and alleviate stress. Stress experiences keep remodeling the brain to adapt and develop new modalities for coping with future stress. However, when it becomes chronic and severe, it starts damaging the neurons. However, the point at which a stressful situation is likely to damage this adaptive mechanism is unknown. It varies as a function of the preexisting vulnerabilities or resilience of the given individual (Lobel & Akil, 2018) and of course the nature of stress. Over emphasis on biological immunity focusing on vaccination alone is insufficient for maintaining human health. Apart from vaccination, we must not lose sight of the dire need for building up resilience. The WHO's definition of health is originally close to that of the concept of wellness in Ayurveda in India, where, it is defined as a state characterized by a feeling of spiritual, physical and mental wellbeing, says de Cavez et al (2005) after a review of the research literature on well being. People need care for their wellbeing not just vaccination to combat the disease.

Race Between the Virus and Immunity

Death, disability, and disruption, these three 'D's have become more defining features of COVID-19 than its physical symptoms. Since the 'second wave' of the pandemic, we witnessed exacerbation of mental health issues across population. The pandemic stress was manifested in fear, anxiety, and other forms of distress, and mental health problems. This has increased peoples' vulnerability to the disease, knocking down the psychoneuroimmunological defense system against infection, hence not just the immunological imbalance that can be treated with chemical intervention. The surge of this pandemic was not only due to the sole the nature of the virus alone but also due to the behavior of the infected people as well. As Kang (2021) writes "…There is a race between the virus and immune system. If we can protect ourselves with mask, ventilation, and limited interaction (social distancing), until vaccine coverage is 70 percent and it adds to protection from prior infection, we

can delay or possibly avoid a third wave" (p.12). COVID 19 has several variants, which keep evolving across time. Therefore, the approach must be more comprehensive. When we speak of the immune system, it involves the psychoneuroimmunological defense system against infection as well, which is regulated by many psychosocial factors.

National surveys on COVID-19, positivity, testing and surveillance, reveal that these surveys failed to capture the granular behavioural phenomena of the disease process, which is worth noting. As such, the relationship between COVID-19 and death is mediated by many factors, which makes it a 'critical mass'. For instance, human factors such as sensitivity to the symptoms could be a crucial issue for help-seeking and survival. However, stigma, medical costs for treatment alters it significantly. Pandemics do have other psychological effects too such as sensitization about the infection and hence has promotion of better hygiene through self-protective measures called 'COVID-appropriate health behaviors' or 'COVID-protocol'.

A 'Third Wave', which was predicted during August and December 2021, with more potent alpha and beta variants, and the state governments, had started appealing to the public for safety measures. Apart from that, the citizens demonstrated considerable preparedness due to the past learning. Therefore, nothing has happened as expected, although still we are not out of danger. It reminds us of the words of Alvin Toffler, said, the illiterates of the 21st century would not be those who cannot read and write but those who cannot learn, unlearn and relearn. In fact, COVID-19 has made us learn many new things about cleanliness, hygiene, and even about the modes of transfer of disease, that we would not have learned otherwise. Still 'illiteracy' about the pandemic in religious festivals and political rallies have taught us lessons facilitating 'deep learning'. Thus, COVID-appropriate life-styles are still much in demand. However, excessive negative expectancy manifested as hopelessness may also trigger mental health issues like depression, anxiety, or other psychiatric conditions. The variance of symptoms and unavailability of vaccines during the second wave of COVID-19 made it a real source of distress. In this context economist G. L. S. Shackle's (1952) observations on decision-making under uncertainty is important. We must take cognizance of uncertainty involved in the decision-making process. Mental health symptoms such as fear or anxiety are not just the direct consequences of the disease. This can be mediated by other life events as well, such as actual or imagined loss of earning. Loss of job, loss of income and loss of family members, loss of activity, social interactions have cumulative effect on the course of the disease itself, apart from the potency of the virus itself. Numerous studies have demonstrated that income and employment are essential for both, higher self-esteem as well as reduced mental health problems as the sense of wellbeing is also connected with these.

The pandemic had brought the economic activity to a grinding halt, affecting income and the economic growth is down by 5.2 percent. This has increased unemployment, raised hunger and poverty. This has deeper psychological consequences too. Thus, many developing countries like India may need leapfrogging from very little to universal health cover to social protection in order to protect their economic growth. In 2015, the UNO had declared the action parameters for reaching the Sustainable Developmental Goals by 2030. Policies must be evolved for attainting the health goals by (a) increasing public spending on the health sector, (b) emphasizing primary and preventive health care, (c) ensuring hygienic housing and living conditions, (d) shock-proofing of the healthcare system against future epidemics, (e) using technology for enhancing telemedicine services and providing affordable health care for all including those living in remote areas of the country.

Every Cloud Has Silver Lining Too

It is said, every cloud has silver linings and this is true for COVID-19. Therapists must make use of the skills that people learn from this pandemic. The most important elements about which people got sensitized are their negative emotions and how to self-regulate them under chronic stress. For instance, COVID literacy has opened up new ways and means of exploring the behavioural assets for maintaining their health

and hygiene. In recent years, there has been a paradigm shift in intervention, from deficit-based models to strength-based models. An emphasis on resilience could prevent even future pandemics. Thus, we need a less pathological approach to immunity building. "resilience-building" is a buzzword for making a healthy society. This has immense scope.

Journalist Sonali Acharjee in her recent book, *Life Behind the Mask* (Acharjee, 2020) provides a eyewitness account of the grim realities of the pandemic. Speaking to the virologists, epidemiologists, mental health professionals, public health analysts, pharmacists, microbiologists, bureaucrats, pulmonologists, internal medicine specialists, migrant workers on the road, the Covid-affected, Covid survivors, and an Indian student stuck in Wuhan, China, she writes, "*After that conversation, I attempted to piece together hope for myself. I turned to history with words. I returned to my grand father's dictionary…. I re-read my childhood books. And I poured through all my Covid notes in my scrapbook. It allowed my mind to return to a place where stories mattered… By the time I resumed writing, the fear and burden of the last six months had mostly melted away*" (p. 17). This was an anatomy of personal exposure to trauma, and post-traumatic growth. She also wrote, about the means by which people have coped with the life's most punishing challenges—poverty death, emotional abuse, unemployment disease and uncertainty. It provides insights to many different ways in which life existed, crashed, and then surfaced. Quick recovery from the pandemic stress, minimizing the damage, recovering quickly, building further, sustaining, bolstering the positive gain, and reenergize things may all be encapsulated under resilience-building exercise. Post-COVID recovery will depend on the extent of adherence to these broader prescriptions.

Uncertainties still remain in gauging the impact of COVID-19 on human development, as still its long-term impacts such as fatigue and chronic depression and generalized anxiety keep unfolding. United Nations (UNO) identified three scenarios for the Sustainable Development Goals (MDG) 2030 such as 'Pre-COVID-19 Scenario', 'COVID-19 Pessimistic' and 'COVID-19 Optimistic'. From this perspective, the current phase could be considered as the 'COVID-19 Optimistic Scenario', a recovery stage, which is to be characterized by new optimism and development. The recovery could be faster for individuals as well as organizations if resilience-building is taken up seriously in a planned and scientific manner, where clinical psychologists can play a significant role. It needs strategic planning.

The Task Ahead

Although, the coronavirus equally infects every community, it exacerbates the already existing inequalities in the extension of the much-needed health services, particularly for the poor, mentally ill, and underprivileged, particularly the vulnerable individuals and communities. The death tolls for instance are much higher among the marginalized groups such as the homeless, the people with disabilities and so on. Similar is the case of mental health problems. People from low-income group suffer from more mental health problems than those from the higher socioeconomic status. According to an estimate almost 1.6 billion students were out of school and tens of millions of people are pushed to the brink of poverty and loss of jobs and that socioeconomic crisis is linked with mental health problems. Poverty is estimated to have doubled and considered as 'mother' of many disorders, biological, psychological, social, and spiritual.

As Antonio Guterres, the Secretary-General, UN pointed out "Everything that we do during and after the crisis must be with strong focus on building more equal, inclusive, and sustainable economies and society that are more resilient in the face of the pandemic….". Thus, undoubtedly, resilience building is one of the most important objectives in the post-COVID era. WHO also reports that this situation may continue longer than what we expected, at least for another year. Children and youth who will return to their schools and colleges, employees who are rejoining their workplaces would require informal resilient-building training in order to come out of pandemic fatigue and speed up their activities. This has implications for enhancing human productivity. One faces immense challenges while looking into the community and organizational side of mental

health, apart from the 'individual' wellbeing of the client, as it needs skills of a different kind, generally not taught in the clinical settings. However, resilience development in communities, school, and human organizations will be the most prominent need in the post-pandemic era. This is a new task ahead for the psychological community and we have miles to go in making it happen. But the sky is the limit for liberating the human potential for a better world of tomorrow!

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Original Paper

Temporal Patterns of Population Level Help Seeking Behaviours During COVID-19 Pandemic in India: An Exploratory Study

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Objectives: To identify the temporal patterns of help seeking behavior in a population exposed to COVID-19 pandemic and associated adversities. *Methods:* In this retrospective study secondary data was taken from the National Helpline for providing psychosocial support and mental health services, in India, during COVID-19 pandemic. Distribution analysis of 316,134 call received during the period of 28th March 2020 – 31st December 2020 is conducted on two temporal factors – weekly frequency of help seeking calls, and daily rate of calls across different hours of the day. *Results:* The temporal distribution of psychosocial help seeking calls received on the helpline shows a sudden spike (forming a J curve) in the first four weeks of starting the helpline, this was followed by sharp decline for next four weeks and finally showing a slow decline with fluctuating patterns over next 32 weeks. Pattern of data on hourly rates of calls shows a maximum number of help seeking calls during 10am-8pm, and least numbers of calls during 12am-5am. These findings provide important insights for preparedness and design of psychosocial response to similar disaster events in future. *Conclusions:* The distributional analysis of temporal patterns in help seeking behaviours provides insights and references for health administrators and policy makers in effective planning and efficient utilization of scarce mental health resources for psychosocial response in the face of similar disasters. The temporal patterns obtained in this study suggest specific and novel hypotheses about population help seeking behaviours for further testing.

Keywords: COVID-19 pandemic, help-seeking behavior, temporal pattern, distribution analysis, mental health

Containment of COVID-19 pandemic had become the highest global priority, after World Health Organization declared it as a pandemic, on March 11, 2020. Subsequently, unprecedented restrictions were imposed on the populations, across countries, which have been associated with detrimental effects to their mental health. The socio-economic disruptions associated with pandemic have increased the risk of mental health problems and exacerbated health inequalities (Moreno, et al. 2020). Therefore, most of the International organisations like World Health Organization (WHO) and United Nations have strongly advocated the integration of mental health and psychosocial support into the COVID-19 response (Interagency Standing Committee 2020, March 17).

There is wide agreement on the temporal changes in psychosocial needs of disaster-affected population is inherent in the conceptual frameworks of disaster cycle. Some of the commonly identified phases of disaster cycle by these conceptual frameworks include preparedness, response, recovery, rehabilitation, and prevention. However, we do not have clear demarcations of when a disaster-affected population enters a specific phase. Some criterion of guidelines for identifying transition of a population from one phase to another phase of disaster cycle is critical in directing psychosocial and mental health action in line with their changing needs.

In addition, Home et.al, (2020) identified a need for deployment of mental health science approach using high quality data to inform population level behavioral changes to provide global perspective for policy makers. We aim to identify a population level temporal pattern of help seeking behavior. These patterns may not only serve as reference estimates for policy maker and health administrator in their future decisions but also provide researchers in domain of disaster management with estimates of major temporal changes in population level psychosocial needs and behavior as indirect temporal measures of phases of disaster, particularly outbreak of pandemic.

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Temporal Patterns of Help Seeking Behaviours

Individual utilization of medical and mental health services among disaster-affected populations and their help seeking behaviours have been widely studied and found to be associated with various demographic, clinical, and socio-cultural factors (Bland, Newman, & Orn, 1997; Cohen, Guttmann, & Lazar, 1998; Kouzis, & Eaton, 1998). Temporal changes in help seeking behavior of populations is a very important dimension for developing macro level understanding for interventions. There is widespread observation and implicit recognition of such changes in various studies. For example - in spite of wide range of psychosocial reactions manifested immediately following a traumatic event, most people recover over time (Foa, Stein, & McFarlane, 2006; Bonanno, 2004; Bonanno et al., 2008; Norris, Tracy, & Galea, 2009). The various reasons attributed to such temporal patterns include improved appreciation of risks and protective factors (e.g. Bonanno, Brewin, Kaniasty, & La Greca, 2010; Norris, Friedman, Watson, Byrne, et al., 2002), development of coping strategies, and social support network (Foa, Stein, & McFarlane, 2006). Stepped care approach to psychological trauma is based upon assumption of temporal changes in distress and mental health needs of people exposed to traumatic events (Wade, et.al. 2013; McDermott, & Cobham, 2014).

Existing longitudinal studies investigating temporal changes in distress reactions have used different temporal categories and total durations. For example, Rothbaum, Foa, Riggs, Murdock, & Walsh, (1992) focusing on PTSD related psychopathology among female rape victims, assessed them weekly for 12 weeks, starting their first assessment after approximately 13 days of assault. Shalev, et.al (1998) assessed 211 trauma survivors recruited from a general hospital's emergency room, assessing them at one week, one month, and four months after the traumatic event. Galea et al. (2003) reported prevalence of posttraumatic stress disorder (PTSD) among residents in Manhattan at 7.5%, one month after 9/11, which, declined to (0.6%) after six months.

Different investigators have used temporal units and measures based upon their implicit intuitions about significant changes to be observed in psychosocial reactions and mental health outcomes among the respective populations studied. However, a systematic presentation of temporal change data in psychosocial and behavioural measures using a uniform, smaller units, for longer overall duration may reveal a more complete and detailed picture of temporal patterns. This would allow us to identify patterns of transition in population level needs and service utilization behaviors thus provide us with useful reference points for health policy and administration. Measures of temporal changes may also contribute to our development of better estimates of phases of disaster.

Efficiency in deployment of mental health resources is extremely important during major disasters, particularly so in a resource crunched low and middle-income country (LMIC). An important reference required for effective planning of mental health and psychosocial response includes a rough estimate of number of people who might seek mental health service. Lack of such estimates or references would leave us poorly prepared for an effective disaster response (e.g. Kessler et al. 2006). Many of the available researchers have assessed post-disaster mental health needs through surveys taken from a segment of affected population. These surveys are often limited in sample size focusing primarily upon the specific mental health issues like PTSD, depression, and anxiety (Ironson et al., 1997; Kohn et al., 2005). of mental health resources needed, for allocation and deployment of resources.

Harrington et. al. (1999) highlighted the importance of corporate (health administrator) need assessment as essential for service planning and estimating costs. Such a knowledge could be particularly useful for resource-crunched developing country, since sufficient supply of mental health resources is a major challenge in most developing nations (Murthy, 2005). In most countries the allocation of mental health resources during disaster situation is done from existing services (Davidson, & McFarlane, 2006) thus disrupting the ongoing services for existing mental health service seekers. Given the short window of time available to health administrators during times of disaster, they often turn to well conducted research literature for seeking answers to their specific questions. This study attempts to supplement the existing findings by providing

trends of help seeking behaviors in COVID-19 pandemic exposed population on two time units of weekly and hourly frequency, for a total duration of forty weeks.

Objectives

1. To identify weekly temporal patterns in psychosocial help seeking behaviours of population affected by COVID-19 pandemic over a period of nine months
2. To identify patterns of hourly trends of help seeking behaviours (calls made to national helpline) of a disaster exposed population

Method

Sample

The data used for this study was taken from database of recorded audio calls for Psychosocial and Mental health services received on National Helpline deployed for Indian population in response to COVID-19 pandemic. This national helpline was launched on 28th March 2020 in the leadership of National institute of Mental Health and Neurosciences (NIMHAN), Bengaluru. Approximately six- hundred (600) mental health professionals from across the country participated as volunteers to provide psychosocial support to persons calling on this helpline. These professionals involved practicing clinical psychologists, psychiatrists, psychiatric social workers, and psychiatric nurses. The helpline was accessible to all Indian citizens and publicized widely on various news media platforms, including government websites, as well as through SMS sent through mobile phones to public. The data used for this study includes all the calls received on this helpline during the nine months period starting 28th March to 31st December 2020. Three hundred sixteen thousands one hundred and thirty four (316,134) calls were made during this period.

Data Cleaning and Preparation

The data accessed (28th March 2020 – 31st December 2020) from national helpline database was cleaned in terms of removal of unnecessary columns of information like - Identities of caller and mental health service providers. After cleaning irrelevant bits of information, we recoded data available in date time format into categories of week number starting from day one of launch of helpline (i.e. 28th March, 2020) and calling hour of the day for every phone call.

Data Analysis

For weekly trend of call frequency was plotted in actual frequency distribution of sum of calls across forty (40) weeks. Since this distribution of frequencies does not fit into a first or second order mathematical function (equation), we chose to skip force fitting into a higher order equation to avoid complex interpretation at this exploratory stage of research. We chose to present the distributional findings in descriptive terms. For hourly distribution of rate of calls, we first coded every single call with the corresponding hour of the day (ranging from 0 th-23rd hour), irrespective of date of call. Then we plotted a line chart for this data with overall percentage rates corresponding to each hour of the day, during the entire period of nine months.

Results

Trend of Service Calls - The temporal distribution of formal psychosocial help seeking behavior shows complex pattern. Weekly frequency distribution of help seeking behaviour (calls made) follows a J curve, during first four weeks, with sharp rise in the fourth week. During next four weeks, the frequency of calls declined sharply. In the following 32 weeks, the frequency of calls followed a slow general declined.

Daily Hourly Trend of Calls–The chart below shows the distribution of rate of calls across hours of day. A few important broad estimates that can be identified from this distribution pattern are

1. Number of service calls rose sharply after 5th hour in the morning and peaked at 10th hour of the day. During this period, number of calls went up 1700%.
2. During 10th and 14th hours of the day, the call load was at peak with minor fluctuations. Thereafter, the number of calls declined (approximately 30%) until 17th hour (5:00pm), followed again by rise in calls up to 20th Hour (8:00pm).
3. .From 20th hour to 23rd hour (11:00pm), calls frequency drops sharply again (up to 85%).
4. From 23rd hour onwards, number of calls continued to drop until 4th hour (4:00am) of day. Lowest number of call received were during this 4th hour.

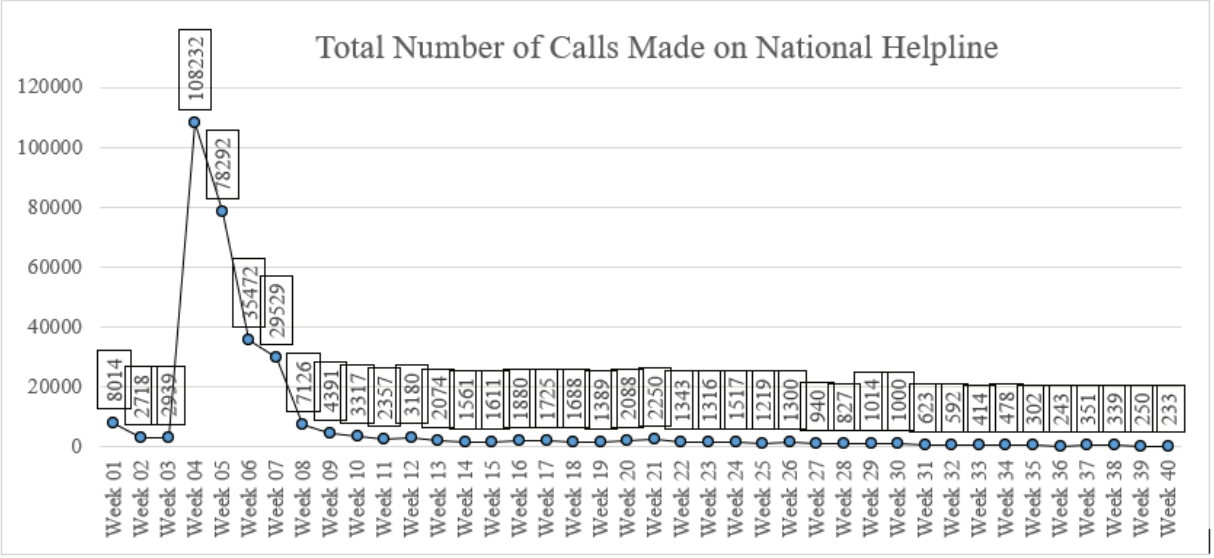

Figure 1. Weekly distribution of help-seeking behavior (calls made on national helpline) for population exposed to COVID-19 pandemic (during period of 28th March–31st December 2020)

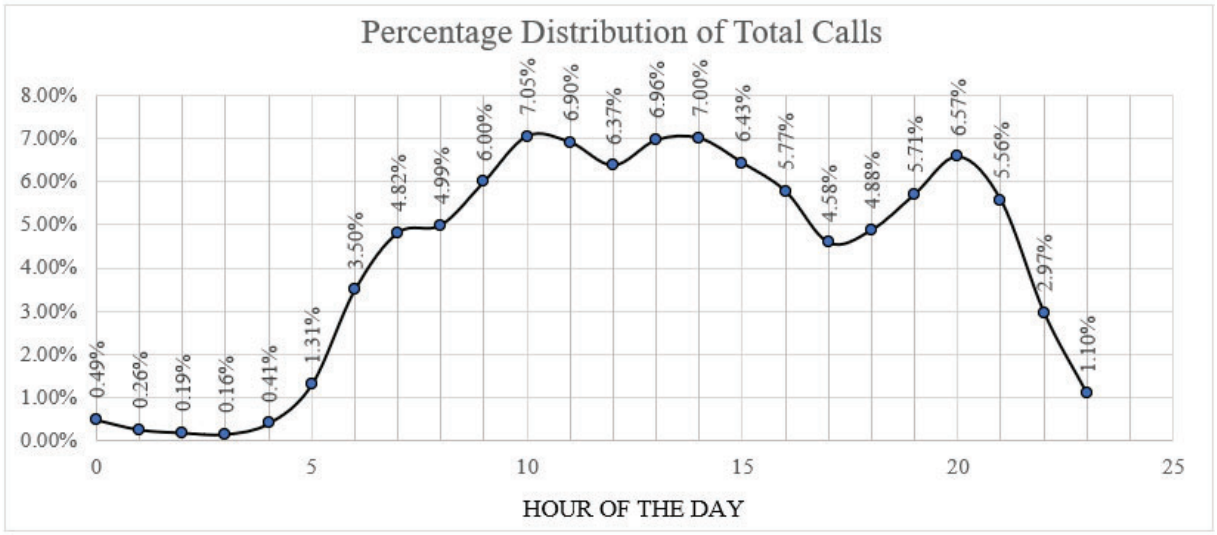

Figure 2. Hourly pattern of calls made on national helpline – averaged across all the calls received during the period (28th March–31 December)

Discussions

The immediate challenge, during disaster, faced by health administrators and policy makers include design and delivery of an appropriate psychosocial response drawing upon limited mental health resources at their disposal. Efficiency in resource utilization is a key parameter of effective psychosocial response to a disaster. Distress reactions and help seeking behaviours of population are important references for estimating psychosocial needs and response.

However, these reactions and help seeking behaviours are extremely dynamic during the period immediately following the onset of disaster. Therefore, a systematic investigation help seeking behaviors is important to create specific and practical knowledge regarding temporal changes and population behaviours for effective planning and delivery of services.

Past research related to psychosocial distress and needs of disaster affected populations used

different units of time for studying various population level reactions. This study used a broader sweep (40 weeks) of small and uniform time intervals (weekly) to uncover a more detailed picture of temporal dynamics in population help seeking behaviour. One important finding that differ from our common understanding from existing literature is the observation of peak in help seeking response in *fourth week rather than theoretically expected first week*. Hourly patterns of calls for seeking psychosocial help is something that has never been studied.

In a similar study, Dohrenwend, (1983), studied the psychological implications of a nuclear accident ('the case of Three Mile Island') using survey data from 2,500 people exposed to the threat of nuclear accident. The measure of mental health effects measured in this study involved nonspecific psychological distress termed as "demoralization". Dohrenwend (1983) analysed the monthly trend of demoralization (distress) in the general population over a period of five months. His finding shows sharp temporal decline in demoralization of population. Our study differs from Dohrenwend's (1983) in a number of ways. For example - A). This study uses actual behavioural data of help seeking unlike survey based measures of psychosocial distress. B). Larger sample size, smaller units of time intervals (weekly, hourly) and broader sweep of total duration studied provides more detailed and reliable picture of help seeking behaviours

Moreover, the present study also provides an hourly rate of help seeking calls across the hours of the day which has not be studied earlier. The differential findings from our exploratory investigations is identification of J curve during first four weeks of helpline. However the rest of distribution of help seeking behavior after fourth week is broadly consistent with other observations about temporal patterns of population reactions post disaster (e.g. Dohrenwend,1983; Bonanno, et al. 2006; Rothbaum et.al. 1992). This finding also supports the public-health standpoint assumed by Van Ommeren, Saxena, & Saraceno, (2005) - a need to reconceptualise resource allocation and timing following disasters. The temporal patterns identified in this study serve as a small but decisive contribution towards the science of psychosocial support in disaster.

Theoretical and Practical Implications

This study provides an initial attempt for developing empirical temporal estimates of disaster cycle and changes in service needs and behaviors of disaster-affected populations. Significant variability of populations' help seeking behaviours, particularly during first eight week post-pandemic provides useful insights and reference for health administrators and policy makers for designing effective psychosocial response and efficient utilization of scarce mental health resources. Temporal decline in psychosocial help seeking behavior demonstrate a natural filtering of individuals who might not require long terms specialized mental health services thus supporting the stepped care model of post disaster mental health services. Health administrators can use these findings as a reference while strategizing and execute large-scale mental health programs.

Often helpline services are recommended to be accessible during all the 24*7. However, the pattern of receiving service calls could be highly variable across hours of day. This pattern may follow our normal social rhythms. Irrespective of the place or population, identifying such a pattern may have important implications for efficient deployment and utilization of mental health resources.

Limitations

This study did not take into account the government actions like lockdowns, disruptions of socio-economic activities in interpretation of findings and estimates of psychosocial behavioral reactions of population. It is possible that had there been no additional measures like lockdown the trend could have been different. Moreover, any natural disaster inevitably would invite emergency response from government and non-government organizations. This was also true, during COVID-19 pandemic, across countries. The data starts from 28th of March, 2020 whereas the actual lockdown was announced in India on 24th March, 2020. The helpline services were conceived and launched only after the announcement of lockdown therefore a time gap of four days in starting date of data available.

Future Directions

Future research should move a step ahead by developing and testing specific hypotheses drawing upon the overall patterns obtained in this study. They can also aim to find out similar patterns and estimates during different types of disasters to obtain more fine-tuned and event specific population level behaviours in different disaster types (Natural, Technological, and Involving Human Violence). Further, a similar investigation of help seeking behavior patterns using data (records) from different kinds of mental health and psychosocial programs (other than telephone helpline) like visiting at community mental health clinic would further support or offer differential findings.

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Original Paper

Psychological Testing of Children with Developmental Delays and Disabilities in Virtual Mode During the Pandemic: Some Problems and Perils

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A Delphi method of deriving consensus was used in three levels of questionnaire-based survey rounds. In round one, the 23 participants rated observations on a zero-five rating scale for 14 statements on the theme of online (virtual) versus offline (face-to-face) psychological testing of children with developmental delays and disabilities during the ongoing pandemic. The participants were asked to contribute ideas on the theme across three rounds. In the second and third rounds, a final group consensus (> 70% agreement between experts) was arrived at having 28 statements. Results show that the participants raised doubts on how psychological tests standardized for offline use can be used online without exclusive training. Performance tests cannot be administered in online mode. Making arbitrary changes in the test content or administration could likely corrupt or upset the data security and integrity. It is observed that escorts gave help or risk for cheating and fraud during online test-taking. The body language of subjects got masked. The online format was sometimes tantamount to invasion into the testing process's privacy, anonymity, or confidentiality. Online testing consumed more time and effort, raised ethical and legal issues. The online testing format was reportedly not amenable for use with specific clinical conditions, not-so-tech-savvy users, and those with poor network or infrastructure facilities. The problems and perils of online psychological testing are discussed in the light of recommended guidelines for their use by professional bodies.

Keywords: telemode, COVID-19, developmental disabilities, real-time testing, digital literacy

Psychological assessment and services have been impacted severely by the pandemic. Traditional face-to-face testing, real-time consultations, or psychotherapy has changed into virtual mode. Online modes of rendering or receiving psychological services have existed, at least in the west, even before the pandemic. They were used to deliver rural telehealth services in remote areas (Campbell et al., 2019). Online formats are appreciated for comfort in administration, inbuilt security checks, ease of performance, and quick results that they ensure. There is better turnaround time, and automation of manual process, but, there are also demerits like challenges in technology innovation and adoption, infrastructural barriers, or may not be applicable for those with serious illnesses. There is a need to discuss whether net-based psychological assessments are equivalent, reliable, or valid (Barak, 2011; Buchanan, 2002). Questions centered on whether they are desirable or dangerous. There were doubts about whether self-disclosure is the same online or offline (Nguyen, Bin & Campbell, 2012). More specifically, there were queries if online or paper-pencil versions for testing are needed at all. Above all, the theory of psychological tests and measurement typically called as test theory or psychometric theory requires to be rephrased in the context of online-offline testing.

Chan (2020), for example, found that the combined use of online and offline counseling achieved better outcomes than when used alone. Wong et al. (2018) reported a greater preference for online than face-to-face counseling in youth. Grieve & Elliott (2013) found that intentions to fake online or in paper-and-pencil psychological testing were similar. No difference between femininity scores was seen depending on the mode of test administration (March et al., 2013). Social desirability responses were much the same, whether online, offline, and paper-pencil face-to-face surveys (Dodou & de Winter, 2014). It is recommended that they complement each other to achieve optimum results (Greijdanus et al. 2020).

There are different theoretical models for traditional psychological assessment (Cooper, 2018). In the real-time face-to-face testing era, psychological tests were classified based on form (oral, paper-pencil, speed, power or performance), content (intelligence, aptitude, achievement, personality, values, and interests), and purpose (description, prediction, selection, research, diagnosis or treatment). A new format now needs to be added as online versus offline psychological tests. While this format may be new, it must fulfill all the mandated

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characteristics of a psychological test, objectivity, reliability, validity, norms, and practicability. The pandemic has raised an issue of whether in-person or online assessments are equivalent or which is better. Research has shown no marked differences between them (Schreiner, Reiss & Schweizer, 2014; Hewson, Charlton & Brosnan, 2007). In view of the preceeding, there is a strong ground, reason, rationale, and justification for examining the problem of psychological testing in the virtual mode during the ongoing pandemic.

Psychological assessment is different from psychological testing. Assessment is to do with systematic collection, organization, and interpretation of information about an individual to enable certain decisions. Testing is specifically to do with sampling behaviors. Psychological testing in an online or virtual mode need not always be computer-based or internet-driven. They can be telephony and video-based. It is best understood by contrasting offline traditional face-to-face testing using paper-pencil or performance tools,

Design

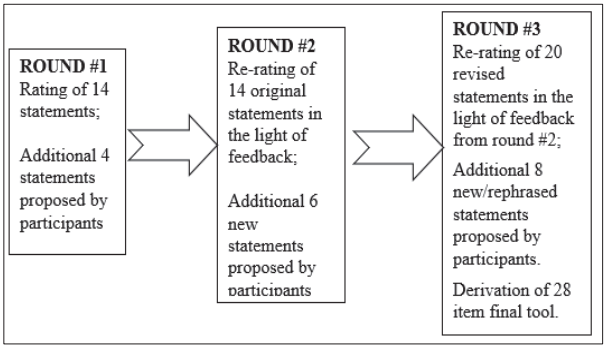

Figure 1: Flow diagram illustrating the three survey rounds of Delphi study on psychological testing in telemode during the pandemic

The Delphi Method, used in this inquiry, is defined as an organized procedure of exploring, assessing, and evaluating views and information about the specific area of psychological testing using online or virtual mode during the ongoing pandemic. This procedure allows a dialogue between experts separated by physical or geographical distances to deliberate on complex problems or issues of this contemporary concern—the Delphi process comprises three rounds.

Objectives

The generic aim of this study was to explore the relative position of online versus offline psychological testing of children with developmental delays and disabilities during the ongoing pandemic. The specific objectives were:

1. To constitute a dialogic expert panel of practicing specialists in the field of psychological testing in children with developmental delays and disabilities;
2. To generate themes/questions on critical elements related to the process, procedures, and practices in psychological testing through face-to-face versus virtual mode;
3. To organize multiple rounds of online group discussions by Delphi method between the panel of enlisted experts on the generated questions regarding psychological testing through face-to-face versus virtual mode;
4. To use a modified Delphi method by asking the experts to rank their responses on a scale from zero through five at the end of each round; and,
5. To use the resulting weighted scoring system to objectively identify the problems or issues related to online versus offline psychological testing of children with developmental delays and disabilities.

Method

The ratings from parents and rehabilitation professionals was taken separately. The content rated on critical elements related to the process and procedures of psychological testing followed during the ongoing pandemic (Table 1). A *dialogic expert panel* method, which combines interviews and questionnaires, was used by engaging practicing clinical psychologists to examine and reflect upon their experiences from several angles in using online versus offline testing in children. The results showed common thematic challenges in their shift from traditional to online psychological testing practices.

A Delphi method was embedded within the multiple rounds of group discussions by the panel of experts. The investigator served as a facilitator.

The technical staff and doctoral students in clinical psychology were identified as experts. The aim was to find consensus on suitable blended protocols, procedures, and practices for online psychological testing conducted through three rounds of an online questionnaire. Each round covered a series of questions and the group response, which then became the basis for the next round of discussions. The anonymous responses were aggregated and shared between the panelists at the end of each round. The ultimate result was meant to be the true consensus of what the group thinks. A merit of this method was that a diverse set of experts were brought together without having any physical meeting (Brady, 2015; Shelton & Creghan, 2015).

Table 1. Demographic characteristics of Delphi participants

	Round #1 (n: 23)	Round #2 (n: 18)	Round #3 (n: 12)
Gender			
Male	14	10	7
Female	9	8	5
Mean age (in years)	40.31	42.36	45.23
Profession/Occupation			
Clinical Psychologists	11	9	7
Speech-Language Pathologist	7	5	3
Parent	5	4	2
Education			
Doctoral	2	3	3
Pre-doctoral	7	8	5
Post Graduate	14	7	4
Experience			
<5 years	8	7	5
6-10 years	11	7	5
11+ years	4	4	2

Procedure

The following steps were followed in this study. A thematic and systematic review was first undertaken. Delphi questions were prepared covering issues related to the need, practice, procedures, and protocols for online psychological testing. The participants were rehabilitation professionals with at least post-graduate qualifications having at least three years of clinical experience in diagnostic testing, counseling, psycho-education, and therapeutic management of children with developmental disabilities. They reported seeing at least ten or more cases per week, including through virtual mode in the preceding year through video conferencing and phone conversation (WhatsApp video calls, Zoom, WebEx, Google meet). The questions covered whether they witnessed any behavior changes and differences between face-to-face and virtual modes based on a given questionnaire (Table 2). The participants were encouraged to bring out everyday stories and narratives of testing online and offline on what and how they experienced the differences. The idea and intention were to evolve a grounded theory based on participants' views in the study. Informed consent and ethical concerns were followed (Venkatesan, 2009).

Results

This section is presented as (a) Findings on Delphi Method, and (b) Themes derived on psychological testing by virtual versus face-to-face testing.

(a) *Findings on Delphi Method*

In the first round, 23 participants were asked to independently rank a total of 14 statements using a 4-point Likert scale ("strongly agree-agree-disagree-strongly disagree"). It has been shown that 4-point scales produce stable findings in Delphi studies (Alizadeh et al. 2020). For each statement, participants were given the option of "Do not Know" as an alternative response for use if necessary. This option was added because online psychological testing is challenging and emerging in our country. The feedback from some participants showed that they did not know the answers to some statements. Such items were given additional attention. A glossary was given to the respondents with clarification on each statement.

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Table 2. Questions Circulated to Participants

S. No.	Domain	Question Statement
1	Tests not standardized for online use	There are few or no psychological tools prepared, developed, or standardized for use during online testing. Tests developed or standardised for use in face-to-face mode cannot be chosen, administered, scored, interpreted, or given psychological reports in the same manner as it is done after their use in online or telemode.
2	Prompts/help given by nearby escorts	Despite instructions not to do so, prompts, clues, or proxy help or answering is given to children by parents (wearing masks) to perform better during online testing can contaminate test results.
3	Body language masked or unclear	The child's important body language, facial expressions, or movements are qualitatively different on camera and cannot be observed during online testing.
4	Invasion into their privacy	Sometimes, the online testing takes the examiner into their homes which can be viewed as an unwanted intrusion into their domestic privacy.
5	Confidentiality	Doubts can be raised whether the observations made or information collected during online testing will be indeed kept confidential.
6	Data security & integrity	There can be apprehensions whether data collected during online testing with being in safe and secure hands.
7	Absence of training for online testing	Most of the psychologists undertaking online testing are themselves not trained for such practices. Their basic training in testing using face-to-face mode cannot be applied in toto on the online mode.
8	Children from abroad or another culture	In rare instances, children from abroad or different language and cultural backgrounds pose even greater challenges when tested online.
9	Copyright issues to alter test content or procedure	The use of copyrighted psychological test materials without making any alterations for use in online mode and without explicit permission from its owners is unethical as well as illegal.
10	Fraud or cheating during test-taking	It will be difficult to detect cheating or fraud by the test takers beyond, behind, or below the camera during online testing. In some instances, schools have tutored groups of their children to answer or not answer in a specific manner before the camera. Schools or teachers seeking certificates for exemption or concessions for their students during examinations, aspiring for centum pass, and those who have not completed their syllabus on time have been noticed to transgress rules.
11	Use of time, effort, labor, and energy	Online or tele mode procedures are more time-consuming, extra energy, effort, and labor-intensive than face-to-face psychological testing?
12	Short cut or quickie methods	Argue whether online or tele mode procedures are short cuts or quickie methods of psychological testing?
13	Performance tests	There are practical difficulties in the administration of performance tests on children through online or telemode.
14	Specific diagnostic conditions	Some diagnostic conditions in children, adolescents, and adults with social anxiety, scopophobia, excessive shyness, elective/selective mutism or paranoia, and those with below-average level of intelligence or severe intellectual disabilities maybe not amenable for online psychological testing.
15	Poor network, infrastructure or absent connectivity	Parents complain of absent infrastructure, or poor network and internet connectivity in their area to undertake online testing
16	Absent digital penetration	Some areas inside or outside certain geographical limits have limited or no digital penetration for undertaking online testing.
17	Not digital-savvy/ Tutoring needed	Some parents complain that they are not computer literate/savvy enough to understand or operate telemode devices or participate in online testing. A knowledgeable technician is needed by their side to use digital technology.
18	Background disturbances or white noise	A few locations may have excess white noise or background sounds that prevent a smooth and continuous use of gadgets for online testing
19	Suspicious about surveillance	Although unexpressed, a few participants can be lurking suspicion on being watched or being kept under surveillance during online testing.

20	Logistics: Temporary dislocation	Sometimes, the participants may be on the move, away from their regular place of stay, or on holiday to be able to participate during online testing
21	Interrupting phone calls	Frequent phone calls and upheavals in bandwidth transmission in some areas can disrupt a smooth flow of online testing
22	Camera shy or participants fear of technology	Some participants (parents as well as children) are fearful, introverted and too withdrawn to appear before a camera to answer questions during online testing.
23	Minimal/zero schooling during the pandemic	In this ongoing pandemic year, many children with or without developmental disabilities have had minimum or nil school exposure to be able to participate in online testing.
24	Increases screen time	A few parents find the use of gadgets and technology for online testing will increase their child's screen time and even harm them
25	Unaffordable or expensive	Some parents complain that the gadgets and technology being used for online testing are costly and unaffordable.
26	Novelty Effect	Part of the results, either correct or wrong, derived by online testing may be due to the newness or novelty of gadgets and the technology. Observer or Hawthorne effects also play a role in influencing results of the online psychological testing.
27	Legality	Reports or certificates issued based on psychological tests undertaken on children through online or telemode raise questions as valid legal tender
28	Quackery	There can be any or many self-styled experts available in the virtual world claiming proficiency in online or telemode based psychological testing

In the second round, a re-rating of the 14 original statements was undertaken in the light of feedback received. Six new statements were proposed by 18 participants (Response Rate: 78.26%). In the third final round, another re-rating of 20 statements derived in the light of feedback from round #2 was undertaken. Eventually, with the addition of 8 more new/ rephrased statements as proposed by participants, the final questionnaire had 28 items. A minimum of 12 respondents (Response Rate: 52.17%) is recommended as sufficient to enable consensus. Expert panel recruitment and group dynamics are more important than their sample size or statistical power (Slade et al., 2014). The sample covered clinical psychologists, speech-language pathologists, and parents (primarily mothers) aged 30 to 45 years. Gender distribution was consistent across three rounds with a relatively equal distribution of males and females-although they favored the women respondents for mothers.

Table 3 summarizes the Delphi statements wherein consensus was achieved >72.5% (N: 18) by the second round and >79.6% (N: 12) at the end of the third round. The statement "suspicious about surveillance" was the only item that needed three rounds before reaching the consensus. No statement reached the cut-off percentage (80%) earmarked in this study. The highest (100%) consensus was achieved, four statements related to (a)Test standardization for online use; (b) Absence of training for online testing; (c) Use of local tests on children from abroad or another culture; and (d) Copyright issues related to altering test content or procedure. Other concerns raised about online psychological testing were: (a) Poor network, infrastructure, or absent connectivity; (b) Absent digital penetration; (c) Not digital-savvy; and (d) Minimal/zero schooling during the pandemic.

(b) *Themes from virtual versus face-to-face psychological testing*

This section lists themes derived from respondents based on their opinions/experiences about psychological testing by virtual versus face-to-face testing.

(i) Tests not standardized for online use

A standardized psychological test is a measurement tool administered, scored, and interpreted consistently across a supposedly homogeneous group of subjects. This practice ensures objectivity, fairness, and comparability of the test results. There is a long, time-consuming, rigid, and well-laid-out procedure for designing or developing standardized tests which cannot be negotiated. The shift from traditional paper-pencil or face-to-face tests to online tests demands the same rigors of standardization. As per the

Table 3. Percentage of responses to statements

Statement Domain	Number of statements in each domain					
	Round #1 (n: 23)		Round #2 (n: 18)		Round #3 (n: 12)	
	Agree %	Disagree %	Agree %	Disagree %	Agree %	Disagree %
Tests not standardized for online use	82.5	17.5%	87.2	12.8%	100.0	0.0%
Prompts/help given by nearby escorts	72.5	27.5%	83.4	16.6%	94.5	5.5%
Body language masked or unclear	68.5	31.5%	75.4	24.6%	82.9	17.1%
Invasion into their privacy	63.7	36.3%	75.4	24.6%	86.4	13.6%
Confidentiality	67.4	32.6%	72.5	27.5%	81.3	18.7%
Data security & integrity	69.9	30.1%	78.4	21.6%	86.6	13.4%
Absence of training for online testing	72.4	27.6%	78.9	21.1%	100.0	0.0%
Children from abroad or another culture	92.1	7.9%	95.6	4.4%	100.0	0.00%
Copyright issues to alter test content or procedure	93.4	6.6%	96.7	3.3%	100.0	0.0%
Fraud or cheating during test-taking	67.8	32.2%	78.5	21.5%	82.5	17.5%
Use of more time, effort, labor, and energy	75.8	24.2%	84.9	15.1%	93.5	6.5%
Short cut or quickie methods	66.5	33.5%	75.5	24.5%	81.3	18.7%
Performance tests	95.5	4.5%	83.6	16.4%	99.5	0.5%
Specific diagnostic conditions	76.9	23.1%	84.5	15.5%	88.8	11.2%
Poor network, infrastructure or absent connectivity	82.5	17.5%	92.5	7.5%	100.0	0.0%
Absent digital penetration	91.5	8.5%	99.4	0.6%	100.0	0.0%
Not digital-savvy/Tutoring needed	87.9	12.1%	88.8	11.2%	100.0	0.0%
Background disturbances or white noise	76.5	23.5%	82.8	17.2%	93.4	6.6%
Suspicious about surveillance	73.4	26.6%	74.8	25.2%	79.6	20.4%
Logistics: Temporary dislocation	68.5	31.5%	76.7	23.3%	81.5	18.5%
Interrupting phone calls	71.3	28.7%	75.9	24.1%	82.9	17.1%
Camera shy or participants fear of technology	71.3	28.7%	76.6	23.4%	88.3	11.7%
Minimal/zero schooling during the pandemic	81.5	18.5%	85.6	14.6%	100.0	0.0%
Increases screen time	76.5	23.5%	83.4	16.6%	88.8	11.2%
Unaffordable or expensive	79.9	20.1%	84.6	15.4%	89.4	10.6%
Novelty Effect	76.6	23.4%	81.3	18.7%	88.1	11.9%
Legality	81.4	18.6%	82.3	17.7%	91.3	8.7%
Quackery	76.4	23.6%	77.6	13.4%	81.4	18.6%

Standards of Psychological and Educational Testing (AERA, 2014), all psychological testing protocols and practices need to be standardized, whether offline or online (Melikyan, Agranovich, & Puente, 2019).

The design and development of the tests for online use or through virtual mode is limited or nearly absent in our country. A paper and pencil test, converted to an online format, may possess different psychometric properties from the original test. Both construct and measurement equivalence is required to be established through appropriate piloting and revalidation. This is absent for the majority of the psychological tests used in clinical practice. Psychological testing during the ongoing pandemic poses special or unique problems. The traditional choice of tests, administration, scoring, interpretation, and report generation may require several changes without affecting their reliability, validity, the equivalence of scores, strength, or use. For example, there are indications that children, on average, scored about seven points less on intelligence tests undertaken by remote administration. Further, there is a question on how long or how much-observed behaviors during an online testing condition generalize to real-life situations (Koretz, 2006).

(ii) Body language gets masked or unclear

Body language refers to the conscious and unconscious movements and postures by which several thoughts or feelings are expressed more than by mere words. It includes posture one's body, facial expression, leaning, gesturing, interpersonal distancing, rhythm in breathing, or eye contact. These non-verbal aspects play a crucial role during psychological testing. With face masks, muffled sounds, increased interpersonal distance, decreased touch, there is more likelihood of not reading or misreading body language cues during virtual testing (Mheidly et al. 2020; Ambady & Weisbuch, 2010).

(iii) Invasion of privacy

Age-old phrases like "tyranny of testing, technical inadequacy of the instruments of measurement, infringement on testees, right to privacy, absence of self-regulation and constant up-gradation of testing skills in examiners" were generally raised in the context of psychological testing in their home settings. This becomes pertinent now with the ongoing pandemic. Online testing takes the examiner into the private recesses of their drawing or study rooms and sometimes into their single-room dwellings, which can be questioned as an invasion of subjects' domestic privacy (Barna, 1974; Wolfle, 1965).

(iv) Confidentiality

Confidentiality is an essential consideration in offline or online psychological testing. It is linked to privacy, but different from it. People need to feel safe and comfortable talking about private things in the virtual mode. When dealing with minors, some teeans, for example, are apprehensive whether their matters will be leaked to their parents or elders. With growing instances of hacking, attack by computer viruses, damage or theft to devices, and phishing scams the issue of confidentiality is gaining paramount importance. It must be ensured that the examiner's testing information and the subject are not shared with anyone (Sellbom & Suhr, 2019; Montalto, 2014).

(v) Data security and integrity

The protection of data against unauthorized access or corruption and is needed to ensure data integrity. This also refers to the validity and accuracy of the data rather than merely protecting it alone. Both indicate a state as well as a process. Among the factors that can affect data integrity in the context of psychological testing are human errors, transfer errors, bugs, and viruses in the used software (Armatas & Colbert, 2009; Burke, 2009).

(vi) Absence of training for online testing

Prevailing training prerequisites for psychological testing mandate compulsory pass-outs before examiners use the test materials. Online testing of children-especially those with disabilities, is an entirely different card game. There are unique challenges related to a limited choice of available tests, their manner of administration, scoring, interpretation, and report generation. Physical distancing, sanitization of testing milieu and materials before or after each session, wearing gloves and masks are the minimum of corona etiquette that needs to be followed for the safety and security of the examiner and the subjects. The crucial question is whether the clinical psychologist in pre-covid times is adept at handling the altered online testing conditions needed currently (Mihura, Roy, & Graceffo, 2017; Ready & Veague, 2014).

(vii) Children from abroad or another culture

Whether it is during the pandemic or otherwise, there is always a section of children outside the country or another culture seeking formal certification based on psychological testing undertaken here. Unless the chosen teat is culture fair, there is the risk of bias emanating from the use of natively standardized tests with inappropriate content, improper standardization sample, examiners' and language bias, absent opportunities, differing constructs, and different predictive validity on children from abroad as is vice versa (Geisinger & McCormick, 2012; Hambleton & Kanjee, 1995; Reynolds & Suzuki, 2012).

(viii) Copyright issues to alter test content or procedure

Psychological tests play a crucial role in diagnostic decision-making. In individual instances, they may end up with a life-altering verdict. They must be procured and used appropriately. Many tests require permission for use and distribution or specific training to administer them correctly. No unauthorized

reproduction, tampering, or alterations are permitted in their format, scoring, interpretation, and use. The online administration of tests increases the protection of the copyright and intellectual property of the test publishers, thus enhancing publisher acceptance for the online mode of test administration. Some publishers of psychological tests have offered a standalone resource page for administering few tests remotely via an exclusively dedicated portal or a third-party platform. This raises the time and cost difference between traditional face-to-face and virtual testing (Kaplan & Saccuzzo, 2017; Urbina, 2014).

(ix) Fraud or cheating during online test-taking

Fraud or cheating during psychological testing by virtual mode occurs by using a proxy and external resources or aids. External help may be provided by verbal or gestural prompts, foreknowledge the questions being asked during testing by virtual mode. Rarely, the scoring and interpretation of the test results or record sheets could be tampered. To an extent, such cheating practices can be checked or curbed by positioning the web camera correctly, varying the sequence or format of question answers (Cizek & Wollack, 2017; Cizek, 1999).

(x) Prompts/help given by nearby escorts

Although unintentional or inadvertent, and despite instructions to avoid, many parents or accompanying escorts sitting alongside the child being examined provide prompts, help, or assistance during a time of online testing. If this avoidable practice amounts to academic dishonesty or misconduct in the least, e-cheating at the next level, in any case, they contaminate the test results (Farmer et al. 2021; Burke, 2009; Rogers, 2006).

(xi) Use of more time, effort, labor, and energy

Online psychological testing requires extra effort, time, and energy for the examiner and the subject. On their part, the examiners are also required to prepare to undertake psychological testing through virtual mode. The virtual infrastructure, connectivity, robust platform for networking, readying the amenability of test materials and items to suit this testing mode are essential. Many times, repetition of test instructions may be required. Some subjects need patient handling, while others need forceful assertiveness (Aiken, 2009; Miller & Lovler, 2018; Reynolds, Altmann, & Allen, 2021).

(xii) Short cut or quickie methods

There are allegations that psychological testing by virtual mode involves the use of shortcut or quickie methods. There are, and there can be no shortcuts in psychological testing online or offline. While short forms or scales of more extended versions of psychological tests are available, there cannot be shortcuts in test administration, scoring, or interpretation. There is also no choice except virtual consultation and primarily relying upon parent observations and reports. Changes may have to be made in the scoring algorithm, especially concerning social areas (Friedenberg, 1995; Hupping & Tetreau, 1988).

(xiii) Performance tests

Psychological tests requiring motor, rather than verbal, responses, such as manipulating different blocks, cubes, objects, or completing a task, are called performance tests. In contrast, verbal tests require the subjects to give oral answers or in a written form. Performance assessments need to be administered in the way they were standardized. The use of such tests is impossible in-home setting carried out through the virtual model.

(xiv) Specific diagnostic conditions

Some diagnostic conditions pose unique challenges and are not amenable for psychological testing through the virtual model. Children with receptive/expressive language delays, below-average intelligence, multiple disabilities, or anxiety-loaded stammering are camera shy. They may not have the minimum speech repertoire to vocalize. Parents are used to mediating online conversations, and there is the likelihood of over-prompting, tutoring, and facilitation given for the child to speak. Other conditions like conduct disorders, opposition-defiant disorders, or those with disruptive behaviors may not cooperate for testing. Then, a growing list of childhood psychological conditions is induced or exacerbated by the prevailing corona culture. Considerations need to be given for the age of the client and those with disabilities. Students with cognitive and physical impairments often cannot sit in front of a

computer and attend to online instructions (Venkatesan, 2019; 2020).

Children, like adults, are to avoid crowding, clean hands frequently, not gather or go out for play, avoid touch or handshakes, use masks, maintain social distancing, or avoid touching their faces frequently during the pandemic. Schools have closed, and homes have become self-contained. This new stay-at-home social order has brought with it delays in speech and social developmental milestones, or even cognitive development, for young children. The situation is worse where they have no siblings. The "pandemic babies," as they are called, would have hardly met anyone apart from their parents. They would have met or interacted only virtually with their grandparents. Babies need stimulation, responsive caregiving, and social contact-all of which have been severely affected during this pandemic has given way for many infants who appear to be "at-risk" or show prodromal symptoms of neurodevelopmental disorders (Benner & Mistry, 2020; Neece, McIntyre, & Fenning, 2020).

(xv) Poor network, infrastructure, or absent connectivity

Data from National Sample Survey Organization (2017-18) indicate that only 4% of the Indian households in rural areas and 23% of the households in urban areas have a computer. Internet access was restricted to 15% of rural and 42% of urban households. Given this dismal background of inequitable digital penetration in rural, tier-two cities and certain pockets of slums in urban areas, the use of psychological testing in virtual mode becomes questionable. Many families from low SES have access to a computer, high-speed internet, a webcam, or a space free of distractions. It is difficult to find authentic, trained, and legally certified professional psychologists in countries like India. The claims of online diagnosticians or therapists must be viewed with suspicion and protected against quackery. Online consultations are available in the guise of counselors, mental health professionals, psychotherapists, psychoanalysts, stress management, self-improvement, or brain-coach for exorbitant prices for a half-an-hour session (Krach, Paskiewicz & Monk, 2020).

(xvi) Not digital-savvy/Tutoring needed

Even if facilities are available, the subject must be a good candidate for a virtual assessment. The examiner also needs a webcam, high-speed internet, and online access. People have different comfort levels with the use of technology. There are legal issues related to diagnosis and services in the virtual model. The reason for referral is a critical element in assessment or testing by virtual mode. Their motives for seeking virtual consultation and testing determine how the subjects will respond to the test questions. There have been instances wherein parents have sought consultation for psychological testing just because it is available online or because they are free during the lockdown to attend such things. Many covert feelings or behaviors may get covered or camouflaged in the camera. Single-session testing could be insufficient in few cases. Preparations are required for bringing some users online. It may require two to three experts to explain the entire process, the time or duration it may take, and caution them on the dos and don'ts during virtual testing. Voice calls or unexpected incoming phone calls at the recipient and can disrupt the connectivity. After spending considerable time, the author has experienced case attritions owing to technical snags.

(xvii) Minimal/zero schooling during the pandemic

Further, the pandemic and its associated lockdown have left children into an enforced social isolation, loss of school attendance, reduced peer interactions, increased opportunities for machine-mediated play or entertainment. If at all, there is a semblance of virtual classes for few privileged students in large metropolitan cities. The rationale and justification for psychoeducational testing of children and diagnostic reports in such times are debatable. Schools have been shut all across the world now for nearly a year. There is a remarkable rise of e-learning for a privileged few through the use of digital platforms. Among the advantages of online learning, it is argued that children can learn at their own pace, going back and re-reading, skipping, or accelerating through concepts as they choose—however, how much of all these matters for students with disabilities and the

disadvantaged. Young special needs children require a structured environment because they can get easily distracted. Any online-enabled testing needs a concerted effort to provide the structure and replicate the physical elements to the maximum extent possible. Securing the optimum performance through online psychological testing is questionable, with minimal or zero schoolings made available for most children during the pandemic (Narvekar, 2020).

(xviii) Novelty and idiosyncratic factors

There can be personalized and idiosyncratic factors like a mismatch between the language and tech-savvy levels of the service deliverer and recipient. The lack of physical presence, technological issues, patient and provider acceptance of and comfort with technology, and procedural issues are reported. The novelty of this technique may put off people with conservative, traditional, and not-willing-to-change users. Some degrees of freedom and discounting must be allowed for test anxiety owing to an unnatural testing mechanism. Above all, clinical judgment plays a critical role in the eventual interpretation of test findings (Ong, Ragen, & Aishworiya, 2020).

(xix) Legality

Assessments and interventions through virtual mode are convenient, cost-effective, affordable, and accessible for people with mobility issues or physical limitations. Of course, they have limitations. Obtaining consent for virtual testing is often underplayed or ignored. Insurance companies may not consider them as treatments eligible for reimbursement. Some have raised cultural, ethical, or legal issues on privacy and confidentiality, diluting during online interactions. It is noted that intimate or intricate body-language details cannot be effectively observed during face-to-face interactions. Online interventions may not work effectively on acutely or severely affected psychiatric conditions (L'Abate, 2015).

To offset legal issues and to protect clinical psychologists and their clients, professional bodies or institutions both in the West and India, such as the American Psychological Association (APA), National Association of School Psychologists (NASP), Indian Association of Clinical Psychologists (IACP), Indian Psychiatric Society (IPS), Medical Council of India (MCI), National Institute of Mental Health and Neuro Sciences (NIMHANS), and others have been issuing specific standards, good practice and operational guidelines for online testing during the ongoing pandemic. Chiefly, the recommendation is to delay testing (Gowda et al. 2020; Math, Manjunatha, & Kumar, 2020).

Conclusion

The pandemic or no pandemic virtual-based assessments have been in place since the advent of the internet. Online psychological testing is likely to be the new norm in the future. What has started as a matter of exigency is likely to persist for some more time as a regular practice. Both the service provider as well as receiver need to resolve the stumbling blocks described in this paper. This may not happen all at once or within set deadlines. Digital penetration needs to expand across the length and breadth of the country. Psychologists need to reinvent the wheel to virtualize their testing processes, products, and procedures. Virtual reality and high-tech simulations may need to become part of the toolkit for psychological testing in the future. User experience is to become a part of the future design for psychological tests with adequate accommodations for the special populations, culturally and linguistically diverse groups. Any delay or procrastination in psychological testing during the pandemic may eventually end in denial. The time has come to move forward and consider alternatives like virtual testing, remote assessments on online delivery platforms as the new norm. There are now new questions about training or re-training the practitioners themselves on or about the new testing modes. Nonetheless, the show must go on.

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Original Paper

A Virtual Positive Psychology Based Intervention Model for Young Adults during the COVID 19

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The COVID 19 pandemic has brought about considerable changes to all our lives. People have suffered numerous physical and psychological issues. This paper is an effort to create a Virtual Positive Psychology Based Intervention Model to help students overcome depression, Anxiety and Stress brought by the pandemic and develop hope and happiness to stride forward in future. An initial survey of 258 students in the age group of 18 to 23 years was conducted by psychometrically assessing using the hope, depression, anxiety, stress and the subjective happiness of the participants After the initial screening, 55 students who were vulnerable to develop anxiety and depression were selected. After informed consent, the 15-day intervention model designed by the researchers was conducted. The whole intervention had a set of exercises conveyed and followed up virtually. The tests were repeated after the intervention. A follow-up was conducted with the same psychological tests after a period of three months. The results indicated a significant difference in the Before, After and Follow-up phases in stress, anxiety and depression. It indicated that the intervention was successful in reducing the psychological issues in the participants.

Keywords: stress, anxiety, depression, positive psychology

The COVID 19 pandemic has brought about considerable changes to our lives. All over the world, people have evolved and brought forward new and effective coping strategies. Priorities of individuals have changed; people are more focused on micromanaging their health. However, the main challenge has been maintaining mental health and well-being despite many setbacks. The education system has changed too. The whole teaching-learning system has undergone substantial change. Students and teachers have responded to this in diverse ways starting from embracing the new method of online teaching and learning to being critical about the success of this new system.

During the last two years, people from diverse backgrounds, cultures, socioeconomic backgrounds, and various facilities have all had multiple reactions to these changes. They have faced uncertainties and frustrations through everyday exposure to news about COVID 19, causing stress and anxiety, frustrations and depression and many more psychological difficulties. Much uncertainty has plagued the minds of students and their parents. The life skills were needed to overcome this pandemic stress. It ranged from simple relaxation to resilience-building, to resetting and reorganizing their goals and objectives while working through constraints posed by this global threat. This resulted in creating a Virtual Positive Psychology Based Intervention Model called CARE (C: Compassion and Self Compassion, A: Achievement and Purpose in Life, R: Good Relationships and E: Positive Emotions). The intervention module has the objective to improve the well-being of the participants through exercises designed to enhance the feelings of compassion and self-compassion, achieving a purpose in life, building and maintaining good relationships, building positive feelings such as optimism, resilience, hope and happiness. Thus, this intervention was designed to get the participants involved in activities to bring about lasting wellbeing for them. Jain (2021) suggests that greater exposure to COVID related news leads to more significant stress and hence lesser satisfaction and gratitude levels and suggests building positive emotions to overcome this stress. In a study on the effectiveness of positive psychology-based online intervention among adults in Greece, Brouzos et al. (2021) reported that the positive psychology intervention helped to reduce anxiety, stress and loneliness. Also, this intervention improved positive psychology constructs such as empathy and resilience among the participants. Jordan et al. (2021), in a study on the protective factors for elders during the COVID pandemic, outlined the importance of forward-focused coping that can be built through

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positive psychological interventions. In a study on employee positive psychology coaching, Nieuwerburgh et al. (2021) reported that such coaching re-energized their employees. Also, positive psychology coaching brought forth increased awareness and self-reflection. The coaching helped alleviate negative emotions in participants and improved their confidence levels. In a similar study benefitting communities, Waters et al. (2021) discuss the positive effects of positive psychology on schools, workplaces, and families that are inclusive of marginalized populations during the pandemic.

Tejada-Gallardo et al. (2020) conducted a meta-analysis of nine randomized and non-randomized control trials on the effectiveness of multicomponent positive psychology interventions on improving well-being and reducing distressing symptoms such as depression. This study found the positive psychological components such as optimism, hope and happiness to be very effective in improving subjective and psychological well-being and reducing depressive symptoms among adolescents. A similar result was reported in clinical populations where positive psychology interventions focusing on increasing positive psychology constructs such as optimism and hope helped improve emotional and psychological well-being. (Bolier et al., 2013). Parks and Boucher (2020) suggest that positive psychology interventions focusing not only on happiness but on building hope and optimism are necessary for the pandemic period. The researchers suggest that due to social distancing norms, these interventions have to be developed in such a way that they can be conveyed digitally are necessary.

Chakhssi et al. (2018) reported that positive psychological interventions focusing on developing positive emotions, cognitions, and behaviour help improve well-being while effectively reducing symptoms of Stress, Anxiety, and Depression among the clinical population. A similar randomized control study (Pietrowsky & Mikutta, 2012) reported that brief positive psychology interventions helped alleviate the symptoms of Depression and helped to increase well-being. An investigation on the effectiveness of the Compassion Cultivation Programme on burnout and job satisfaction among health care workers (Scarlet et al., 2017) concluded that improvements in compassion levels showed a significant increase in job satisfaction, mindfulness, self-compassion, and reduced interpersonal conflict. However, no effect was seen on burnout. This study had an intervention programme to build and develop compassion in everyday life.

In interesting research by Cohen et al. (2006), study participants were initially assessed on their Positive Emotional Style (Happy, Cheerful, Lively or Calm) versus a Negative Emotional Style (stressed, anxious, hostile or depressed). Then they were exposed to the Influenza virus. The results remarkably indicated that increased positive emotional style was associated very clearly with a lesser risk of upper respiratory tract infections.

The CARE Intervention that is taken up for study in the present research was effective in reducing social anxiety and improving the happiness levels of 55 female college students. (Sudha & Gayatridevi, 2021). The same intervention is being used in the present study to reduce stress, anxiety and depression and help build hope and happiness.

Given the enormous uncertain circumstances, it is essential to help people in their coping strategies, to help in reducing psychological distress and helping to build hope and optimism when the COVID variants continue their nonstop onslaught. Building a simple to use positive psychology-based intervention that could be conveyed virtually was hence undertaken by the researchers.

Method

The study was conducted to identify the psychological distress in the students during the COVID and to analyze the effectiveness of a virtual positive psychological intervention to reduce stress, anxiety, and depression among the participants and analyze the effectiveness of a virtual positive psychological intervention to improve hope and happiness among the participants. The overall aim of the study was to bring forward an easy-to-use positive psychological intervention that can be given virtually to the participants. The literature review reveals that positive psychology-based interventions help in reducing psychological distress

Hypotheses

H_1: There will be a significant difference between Before, After, and Follow-up phases in depression, anxiety and stress through CARE intervention programme students.

H_2: There will be a significant difference between Before, After and follow-up phases in hope and happiness through CARE Intervention among Students.

Materials

The following psychological scales were used in the assessment process in the Before, After and the Follow-up phases. Before the onset of the programme, the participants were administered:

The Adult Trait Hope Scale (Snyder et al., 1991): The scale consists of 12 items using Likert-type response scales of 1 (definitely false) to 8 (definitely true). Across many studies, internal reliability alphas for the overall hope Scale have ranged from 0.74 to 0.84. The construct validity was also sufficiently established. (Snyder et al.,1991).

The Depression, Anxiety, Stress Scale (DASS-21) (Lovibond, & Lovibond, 1995): This scale consists of 21 items, seven each measuring depression, anxiety and stress, respectively. The scale uses a rating scale ranging from 0 (Did not apply to me at all) to 3 (Applied to me very much or most of the time). The Cronbach alpha values of reliability (0.80) and factorial validity have been established. (Vasconcelos-Raposo et al. 2013).

Subjective Happiness Scale (Lyubomirsky, 1999): This scale uses four items, with a rating scale ranging from 1 (less happy) to 7 (happier). More than 14 studies have proved the reliability and validity of this scale among adults, school students and college students. Cronbach alpha values of 0.77 have been reported (Lyubomirsky, S. 2020). Another study reported the Cronbach alpha values of 0.84 for a translated version (Alquwez et al. 2021)

Procedure

An initial survey of 258 female students in the age group of 18 to 24 years from a women's was conducted during the COVID pandemic, were conducted using the scales mentioned above. After the initial screening, 55 students who were vulnerable to develop anxiety and depression and who displayed high levels of stress were selected. After obtaining informed consent, the 15-day intervention module was designed by the researchers was conducted. The whole intervention consisted of a set of exercises conveyed and followed up virtually through electronic mail, videos, Google meets and WhatsApp. Daily motivational messages with small activities were also sent to them and their responses were collected for each day. After every five days, a feedback session was conducted with a break day to reflect upon the intervention. So the complete intervention module took 18 days time.

The CARE intervention module included includes Relaxation Exercises such as Counted Breathing, Deep Breathing, Breathing from the Stomach, and Jacobson's Progressive Muscle Relaxation for a period of 30 to 40 minutes every day in the morning. The CARE intervention with a sample of the activities used in the intervention is given below:

On the first day, one, the focus of the activities were on developing compassion. This activity required the participant to choose a certain task(s) such as donate money/time/clothing for a good cause, smile and wish someone when they least expect it, show concern to someone, give time and pleasantness to someone from one's family. The second day consisted of activities striving to build optimism. The participants were asked to deliberately consider an adverse event that has happened to him/her in the past 15 days and look at the advantages/positives deliberately hidden behind the negative emotion associated. Examples were provided to the participants. They are then required to write down a thoughts opposed to the negative thinking which were associated with the adverse life events. The third day comprised of helping to build resilience. Here, the participants were asked to think of a stressful situation weighing them down. They are asked to write it down in detail. Also, to write down ways in which they think they can challenge themself and bounce back from the negativity. They are asked to imagine that the stressful event is a cloud spreading over them. They are then required to break through the barrier and build on thoughts focusing on building the strength to bounce back. Each day comprised of activities to build one particular positive experience. The

constructs included were building a sense of purpose, building good relationships, constructing one positive emotion of their choice, developing self-compassion, understanding and practicing gratitude even for small things in life, exploring their strengths through an activity, building hope and happiness, spreading smiles, and overcoming obstacles in the path to positivity.

The above intervention programme was conveyed to the selected participants virtually for 15 days, with one activity scheduled for a day. A schedule of activity was provided to the participants for practice (Annexure-1). The session consisted of 20 to 30 minutes. Their responses were collected for each task. Discussions were held with the students individually if they required any clarifications. They all posted their thoughts freely and participated willingly in the intervention programme.

The above intervention programme was conveyed to the students virtually and their responses collected for each task. Discussions were held with the students individually if they required any clarifications. They all posted their thoughts freely and participated willingly in the intervention programme. After the intervention programme, the psychological scales were administered to all the participants. A follow-up of the same psychological scales was conducted after three months.

Results

The data collected were analyzed using the SPSS software version 21. Statistics such as distribution analysis (to analyze the levels of depression, anxiety, stress, hope and happiness among the participants) and Repeated Measures ANOVA (to analyze the significant differences in the levels of depression, anxiety, stress, hope and happiness in the before, after and follow-up phases of intervention) were conducted. Initially, the distribution analysis for the levels of depression, anxiety, stress, hope and happiness in the initial survey of 258 students was analyzed. The results are presented in Tables 1 and 2 respectively.

Table 1: Distribution Analysis of Depression, Anxiety, and Stress among students (N=258)

S. No.	Levels	Depression		Anxiety		Stress	
		Number	Percent	Number	Percent	Number	Percent
1	Normal	65	25	52	20	43	17
2	Mild	73	28	81	31	90	35
3	Moderate	53	21	58	23	42	16
4	Severe	36	14	39	15	52	20
5	Extremely Severe	31	12	28	11	31	12

Table 2: Distribution Analysis of Hope and Happiness among students (N=258)

S. No.	Levels	Hope		Happiness	
		Number	Percent	Number	Percent
1	Low	87	34	96	37
2	Moderate	121	47	119	46
3	High	50	19	43	17

Table 1 indicates that 12 percent of the participants had Very Severe Depression, 11 percent had Very Severe Anxiety, and 12 percent had Very Severe Stress. Table 2 indicates that only 19 percent of the participants had High levels of Hope, while only 17 percent had High levels of Happiness. The differences in mean values in the Before, After, and Follow-up phases of Intervention for Depression, Anxiety, Stress, Hope and Happiness was further analyzed. The results are presented in Tables 3 and 4, respectively. Table 3 shows that the means of Depression, Anxiety and Stress have reduced in the After Intervention phase compared to the Before Intervention phase. Also, this change is maintained in the follow-up phase. This difference is also manifested in figure 1.

Table 3: Mean and Standard Deviation of Depression, Anxiety and Stress in Before, After and Follow-up Phases of Intervention among students (N=55)

S. No.	Levels	Depression		Anxiety		Stress	
		Mean	SD	Mean	SD	Mean	SD
1	Before Intervention	24.27	3.58	20.95	4.04	30.00	5.49
2	After Intervention	8.82	2.21	8.24	2.06	9.85	3.30
3	Follow-up	11.00	1.61	9.51	2.28	10.53	2.07

Table 4: Mean and Standard Deviation of Hope and Happiness in Before, After and Follow-up Phases of Intervention among Students (N=55)

S. No.	Levels	Hope		Happiness	
		Mean	SD	Mean	SD
1	Before Intervention	10.75	1.71	10.71	3.13
2	After Intervention	25.00	3.31	24.02	3.44
3	Follow-up	20.53	3.65	20.71	2.97

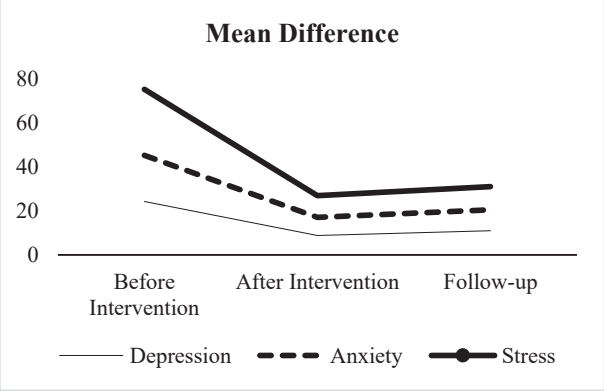

Figure 1: Mean difference of Depression, Anxiety And Stress in the Before, After and Follow-up phases of CARE intervention

Table 4 shows that the levels of Hope and Happiness have increased in the After Intervention phase compared to the Before Intervention phase. Also, this change is maintained in the follow-up phase. This difference is also manifested in Figure 2.

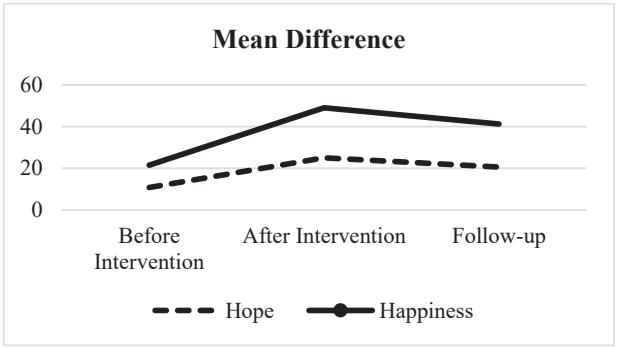

Figure 2: Mean Difference of hope and happiness during before, after and follow-up phases of c a r e intervention among students

One-way Repeated Measures ANOVA was conducted to find significant differences in the Before, After and Follow-up phases of intervention in the students. The results are presented in the following tables.

Table 5: Repeated Measures One Way ANOVA for Depression among Students (N=55)

Source		Type III Sum of Squares	df	Mean Square	F
Depression	Sphericity Assumed	7695.76	2	3847.88	539.07 **
	Greenhouse-Geisser	7695.76	1.74	4436.12	539.07 **
	Huynh-Feldt	7695.76	1.79	4305.80	539.07 **
	Lower-bound	7695.76	1.000	7695.76	539.07 **
Error (Depression)	Sphericity Assumed	770.91	108	7.14	
	Greenhouse-Geisser	770.91	93.68	8.23	
	Huynh-Feldt	770.91	96.51	7.99	
	Lower-bound	770.91	54.00	14.28	

**Significant at 0.01 level

Table 6: Pairwise Comparisons for Before, After and Follow-up Phases in Depression among Students (N=55)

(I) Depression	(J) Depression	Mean Difference (I-J)	Standard Error
Before	After	15.40*	0.60
	Follow-up	13.22*	0.50
After	Before	-15.40*	0.60
	Follow-up	-2.18*	0.42
Follow-up	Before	-13.22*	0.50
	After	2.18*	0.42

*Significant at 0.05 level

Table 5 shows a significant effect of the C. A. R. E intervention on Depression among students, F (2, 108) = 539.07, where p=0.000. Table 6 shows that three paired-samples t-test was used to make post hoc comparisons between the before, After, and Follow-up conditions. There is a significant mean difference in the Before and the After Phases (M=15.40, SE=0.60). Also, there is a significant mean difference in the Before and Follow-up Phases (M= 13.22, SE=0.50).

The table shows that there is a significant mean difference in the After and the Before Phases (M=-15.40, SE=0.60). Also, there is a significant mean difference in the After and Follow-up Phases (M= -2.18, SE=0.42).

The above table shows that there is a significant mean difference in the Follow-up and the Before Phases (M=-13.22, SE=0.50). Also, there is a significant mean difference in the Follow-up and After Phases (M= 2.18, SE=0.42).

Table 7: Repeated Measures of One-Way ANOVA for Anxiety among Students (N= 55)

Source		Type III Sum of Squares	df	Mean Square	F
Anxiety	Sphericity Assumed	5388.74	2	2694.37	343.72 **
	Greenhouse-Geisser	5388.74	1.60	3361.16	343.72 **
	Huynh-Feldt	5388.74	1.65	3276.38	343.72 **
	Lower-bound	5388.74	1.00	5388.74	343.72 **
Error (Anxiety)	Sphericity Assumed	846.59	108	7.84	
	Greenhouse-Geisser	846.59	86.58	9.78	
	Huynh-Feldt	846.59	88.82	9.53	
	Lower-bound	846.59	54.00	15.68	

**Significant at 0.01 level

Table 7 shows a significant effect of the C. A. R. E intervention on Anxiety among students, F (2, 108) = 343.72, where p=0.000. Table 8 shows that three paired-samples t-tests were used to make post hoc comparisons between the Before, After, and Follow-up conditions. There is a significant mean difference in the Before and the After Phases (M=12.71, SE=0.62). Also, there is a significant mean difference in the Before and Follow-up Phases (M= 11.44, SE=0.57). The table shows that there is a significant mean difference in the After and the Before Phases (M=-12.71, SE=0.62). Also, there is a significant mean difference in the After and Follow-up Phases (M= -1.27, SE=0.38). There is a significant mean difference in the Follow-up and the Before Phases (M=-11.44, SE=0.57). Also, there is a significant mean difference in the Follow-up and After Phases (M= 1.27, SE=0.38).

Table 8: Pairwise Comparisons for Before, After and Follow-up phases of Anxiety among Students (N=55)

(I) Anxiety	(J) Anxiety	Mean Difference (I-J)	Standard Error
Before	After	12.71*	0.62
	Follow-up	11.44*	0.57
After	Before	-12.71*	0.62
	Follow-up	-1.27*	0.38
Follow-up	Before	-11.44*	0.57
	After	1.27*	0.38

*Significant at 0.05 level

Table 9: Repeated Measures of One-Way ANOVA for Stress among Students (N=55)

Source		Type III Sum of Squares	df	Mean Square	F
Stress	Sphericity Assumed	14400.45	2	7200.22	443.63 **
	Greenhouse-Geisser	14400.45	1.45	9928.06	443.63 **
	Huynh-Feldt	14400.45	1.48	9729.65	443.63 **
	Lower-bound	14400.45	1.00	14400.45	443.63 **
Error (Stress)	Sphericity Assumed	1752.89	108	16.23	
	Greenhouse-Geisser	1752.89	78.33	22.38	
	Huynh-Feldt	1752.89	79.92	21.93	
	Lower-bound	1752.89	54.00	32.46	

**Significant at 0.01 level

Table 9 shows a significant effect of the C. A. R. E intervention on Stress among students, F (2, 108) = 443.63, where p=0.000. Table 10 shows that three paired samples t-test were used to make post hoc comparisons between the Before, After and Follow-up conditions. There is a significant mean difference in the Before and the After Phases (M=20.15, SE=0.95). Also, there is a significant mean difference in the Before and Follow-up Phases (M= 19.47, SE=0.77).

Table 10: Pairwise Comparisons for Before, After and Follow-up phases of Stress among Students (N=55)

(I) Stress	(J) Stress	Mean Difference (I-J)	Standard Error
Before	After	20.15*	0.95
	Follow-up	19.47*	0.77
After	Before	-20.15*	0.95
	Follow-up	-0.67	0.52
Follow-up	Before	-19.47*	0.77
	After	0.67	0.52

*Significant at 0.05 level

The table shows that there is a significant mean difference in the After and the Before Phases (M=-20.15, SE=0.95). Also, there is a significant mean difference in the After and Follow-up Phases (M= -0.67, SE=0.52). The above table shows that there is a significant mean difference in the Follow-up and the Before Phases (M=-19.47, SE=0.77). Also, there is a significant mean difference in the Follow-up and After Phases (M= 0.67, SE=0.52). The above tables demonstrate that there was a significant difference between Before, After, and Follow-up phases in Depression, Anxiety and Stress among Students. It implies that the C. A. R. E Intervention significantly reduced Stress among girl students. Hence the Alternative Hypothesis, "There will be a significant difference between Before, After and Follow-up phases in Depression, Anxiety and Stress through C. A. R. E Intervention among Students", is accepted.

Table 11 shows a significant effect of the C. A. R. E intervention on Hope among students, F (2, 108) = 386.01, where p=0.000. Table 12 shows that three paired-samples t-test were used to make post hoc comparisons between the Before, After and Follow-up conditions. There is a significant mean difference in the Before and the After Phases (M=-14.26, SE=0.43). Also, there is a significant mean difference in the Before and Follow-up Phases (M= -9.78, SE=0.51).

The table shows that there is a significant mean difference in the After and the Before Phases (M=14.26, SE=0.43). Also, there is a significant mean difference in the After and Follow-up Phases (M= 4.47, SE=0.62).

Table 11: Repeated Measures of One-Way ANOVA for Hope among Students (N= 55)

Source		Type III Sum of Squares	df	Mean Square	F
Hope	Sphericity Assumed	5846.16	2	2923.08	386.01**
	Greenhouse-Geisser	5846.16	1.71	3412.32	386.01**
	Huynh-Feldt	5846.16	1.76	3314.33	386.01**
	Lower-bound	5846.16	1.00	5846.16	386.01**
Error (Hope)	Sphericity Assumed	817.84	108	7.57	
	Greenhouse-Geisser	817.84	92.52	8.84	
	Huynh-Feldt	817.84	95.25	8.59	
	Lower-bound	817.84	54.00	15.15	

**Significant at 0.01 level

Table 12: Pairwise Comparisons for Before, After and Follow-up phases of Hope among Students (N= 55)

(I) Hope	(J) Hope	Mean Difference (I-J)	Standard Error
Before	After	-14.26*	0.43
	Follow-up	-9.78*	0.51
After	Before	14.26*	0.43
	Follow-up	4.47*	0.62
Follow-up	Before	9.78*	0.51
	After	-4.47*	0.62

*Significant at 0.05 level

The above table shows that there is a significant mean difference in the Follow-up and the Before Phases (M=9.78, SE=0.51). Also, there is a significant mean difference in the Follow-up and After Phases (M= -4.47, SE=0.62).

Table 13 shows a significant effect of the C. A. R. E intervention on Happiness among students, F (2, 108) = 386.01, where p=0.000. Table 14 shows that three paired-samples t-test were used to make post hoc comparisons between the Before, After and Follow-up conditions on Happiness. There is a significant mean difference in the Before and the After Phases (M=-13.31, SE=0.55). Also, there is a significant mean difference in the Before and Follow-up Phases (M= -10.00, SE=0.55).

The table shows that there is a significant mean difference in the After and the Before Phases (M=13.31, SE=0.55). Also, there is a significant mean difference in the After and Follow-up Phases (M= 3.31, SE=0.56).

Table 13: Repeated Measures of One-Way ANOVA for Happiness among Students (N=55)

Source		Type III Sum of Squares	df	Mean Square	F	
Happiness	Sphericity Assumed	5281.50	2	2640.75	312.78	**
	Greenhouse-Geisser	5281.50	1.99	2643.10	312.78	**
	Huynh-Feldt	5281.50	2.00	2640.75	312.78	**
	Lower-bound	5281.50	1.00	5281.50	312.78	**
Error (Happiness)	Sphericity Assumed	911.83	108	8.44		
	Greenhouse-Geisser	911.83	107.90	8.45		
	Huynh-Feldt	911.83	108.00	8.44		
	Lower-bound	911.83	54.00	16.89		

**Significant at 0.01 level

Table 14: Pairwise Comparisons for Before, After and Follow-up phases of Happiness among Students (N=55)

(I) Happiness	(J) Happiness	Mean Difference (I-J)	Standard Error
Before	After	-13.31*	0.55
	Follow-up	-10.00*	0.55
After	Before	13.31*	0.55
	Follow-up	3.31*	0.56
Follow-up	Before	10.00*	0.55
	After	-3.31*	0.56

*Significant at 0.05 level

The above table shows that there is a significant mean difference in the Follow-up and the Before Phases (M=10.00, SE=0.55). Also, there is a significant mean difference in the Follow-up and After Phases (M= -3.31, SE=0.56).

The above tables disclose that there was a significant difference between Before, After and Follow-up phases in Hope and Happiness among Students. It implies that the CARE Intervention significantly enhanced Happiness among students.

Hence the Hypothesis, “There will be a significant difference between Before, After and Follow-up phases in Hope and Happiness through CARE Intervention among Students", is accepted.

Discussion

The present study shows that the CARE intervention module effectively reduces Depression, Anxiety and Stress while increasing Hope and Happiness among the highly vulnerable students due to the pandemic circumstances. This intervention focuses on building positive psychological constructs to overcome the negative mental health issues and promote positivity. The COVID pandemic has created havoc on students' mental health status worldwide. Feedback and discussion sessions held with the participants revealed that some participants had been infected and had become carriers and passed on the infection to their family members. This resulted in guilt and self-criticism. Many of them expressed that the stress they faced was because their initial carelessness caused their whole family to suffer from the infection. Such anecdotes bring to the forefront the mental health issues faced by the public during the pandemic. Many studies have been conducted on students and their mental health during the pandemic. To quote a recent study, among the medical students in Iran, the presence of certain positive psychology constructs like life satisfaction, spiritual well being along with self-esteem were significantly negatively correlated with depressive symptoms. (Mirhosseini, et al. 2022). Another study by Waters et al. (2021) found that during the pandemic, positive psychology interventions such as developing self-compassion, coping, courage, gratitude, character strengths, positive emotions and relationships building are crucial for buffering and bolstering mental health.

While the present study effectively helps in reducing psychological issues in a small sample through virtual means with a small 15-day intervention model, it needs to be said that the intervention model must be extended and validated using randomized control trials. Such trials can compare the CARE intervention with a larger sample and different populations.

Conclusion

The above analysis indicated that the 15 days CARE intervention effectively reduced the Depression, Anxiety and Stress levels. Also, the intervention effectively increased the Hope and Happiness levels among the participants at the same time. Furthermore, the Follow-up clearly showed that the change was maintained even after three months. Implications for future research include modifying the research to suit the varied needs of different populations. Moreover, educational organizations and employers should introduce positive psychology-based interventions to help their students and employees. The study has limitations, such as using a smaller sample and only female students. These limitations could be overcome in future research. Despite the limitations, this study effectively uses a Virtual Positive Psychology Intervention to reduce psychological distress such as Depression, Anxiety, and Stress symptoms while improving Hope and Happiness in this pandemic era.

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Annexure-1

A 15-day Calendar with Daily Activities

Day 1	*Compassion Day*: Do a kind task towards another person. Choose from any one of the activities: (a) Donate money/time/clothing. (b) Smile and wish someone when they least expect it. (c) Show concern to someone. (d) Give your time and pleasantness to someone from your family
Day 2	*Optimism Day*: Deliberately consider an adverse event that has happened to you in the past 15 days. Look at the advantages/positives deliberately hidden behind the negative emotion associated. (Examples given to the participants). Write down a thought that is opposed to the negative thinking associated with the adverse event.
Day 3	*Resilience Day:* Think of a stressful situation that is weighing down on you. Write it down in detail. In the end, write down ways in which you think you can challenge yourself and bounce back from the negativity. Imagine that the stressful event is a cloud that is spreading over you. You stand upright and bring your hands fisted up to break through the cloud and emerge a winner.
Day 4	*Achievement and Purpose in Life Day*: Ask yourself the following questions:(a) What is the purpose of the day today?(b) What is the one thing that I can achieve today?(c) The motto and objective for today is…… (Choose something fulfilling and satisfying to you, something that will make you happy)
Day 5	*Relationship Day:*Today, we work to improve one relationship in our life that is not very good. Make sure you change your thought process about that person and make it positive and open. Go and make deliberate, patient conversation with eye contact. Be non-judgmental and non-critical. Try to listen. Have an open body language. Do not deny or jump to defend. Try to repair any maladjustment today.
Day 6	*Positive Emotion Day*: Today, try to cultivate, build and broaden one positive emotion. Choose one emotion from the following: Happiness, Savouring, Contentment, Compassion, Gratitude, Hope, Try to fill your mind with the chosen positive emotion and spread that positive emotion to those around you today.
Day 7	*Gratitude Day*: Identify at least five things/events/ people in your life that you are thankful/grateful for. Then, write the reasons that you are grateful for each of the five things. This exercise can also be repeated daily by identifying one thing you are grateful for that day.

Day 8	*Self-Compassion Day*: Today is kindness to self-day. Are you overly critical about yourself over any particular weakness/ fault of yours? Show a little compassion to yourself. It is all O.K. There is always tomorrow to strive to be better.
Day 9	*Hope Day:* Visualize in full detail a future, where you are very successful, a future where you are achieving all that you dreamt of.
Day 10	*Happiness Day*: Find a reason, however small or silly, to be happy today. Enjoy the Joy! Spread the happiness to all around you. Smile and be pleasant to all around you.
Day 11	*Spread the Smile Day*: Post a message, poem or a few words about a person who has brought a smile to your face today.The person can be your family member/ friend/relative or yourself.
Day 12	*Visualize Peace Day*: Sit back and picture your favourite place. Sharpen all your senses and feel calm and peaceful. Write down all the details about your favourite spot. Picture yourselves in your favourite place. Write down your thoughts.
Day 13	*Overcome Obstacle Day*: Can you think of one obstacle in your path. Then, think about how you can overcome it. Could you write it down? My Obstacle: I plan to overcome this obstacle by_____
Day 14	*Strengths Exploration Day*: For today's task, we have a Strength Exploration Worksheet. Given below are some strengths. Feel free to add/ delete and fill up the empty rows with your strengths, as many as you can think of.

Calm	Smart	Fun-loving	Intelligent
Courageous		Honest	
	Loyal		Beautiful
Focused		Hard-working	

Clues: Answering these questions may give you a list of strengths.

1. What are the qualities in me that help me in friendships?
2. What are the factors within me; that helps me in my work/academics?
3. What helps me maintain cordial relationships with my family?
4. What makes me feel contented/ satisfied/ fulfilled?

Day 15 — Overcome FEAR with DARE Day Today's task is to identify and overcome your fears. So what are some things that make you feel scared or nervous?

My FEAR	My DARE
F- How do I Feel?	D - Develop Skills. What are the skills I need to develop to overcome this Fear?
E - What are the excessive emotions involved?	A – Accept what can not be changed. Can I accept a part of this situation that I cannot change?
A - Am I Avoiding? Running Away?	R - Realistic Goals. Can I have Realistic Goals? Can I take one day at a time?
R - Am I far away from Reality?	E - Embrace positivity. Can I Embrace my values and principles at this time?

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Original Paper

Identification of Predictors for COVID-19 Vaccination Hesitancy

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The present study was designed to assess willingness for vaccination (willingness for vaccination vs vaccine hesitancy) and to identify the health beliefs as potential predictors of vaccine hesitancy. The survey was developed on Google form and link for the online Google form was shared through emails, WhatsApp, Facebook, and Messenger from January to March, 2021. Two hundred sixty three respondents (mean age 37 years) completed the online survey. The survey consisted of questions/ items based on Health Belief Model that assessed respondents' perception of coronavirus disease, vaccination and willingness for vaccination. The sample was divided into two groups willing to get vaccinated and not willing (vaccine hesitancy), based on the responses of the participants on willingness to receive a COVID-19 vaccine. From the analysis of the results, it was observed that approximately 70% (69.58%) expressed willingness for vaccination. The results of t-test suggested that individuals having willingness for vaccination significantly perceive greater susceptibility to COVID, perceive more benefits of getting vaccinated and perceive less barriers to vaccination, compared to individuals expressing vaccine hesitancy. Further, logistic regression analysis revealed that Health Belief Model, namely the two constructs perceived benefits and perceived barriers are significant in explaining and predicting variation in intention towards COVID-19 vaccination. Thus, Health Belief model can be helpful in developing strategies to enhance willingness for vaccination. The findings of the present study highlight the need for designing and developing interventions programs to address the issue of vaccine hesitancy and enhance the acceptance of COVID-19 vaccine and its uptake.

Keywords: covid-19; health belief model, intention/ willingness for vaccination, vaccine hesitancy

Coronavirus disease (COVID-19), an infectious disease caused by SARS-CoV-2, was initially detected in December 2019 in China (Wuhan). Soon this virus spread rapidly in world and WHO on 11th March 2020 declared COVID-19 a pandemic. Initially, because of the absence of an effective treatment or vaccine, governments around the world enacted on measures like physical/ social distancing, quarantine and lockdown to slow down the spread of this virus; and to protect the vulnerable population, and to manage the demands this virus has put on the health care service. Now, with vaccine in hand, low turnout for vaccination has been an issue of concern. Vaccine hesitancy is a serious concern, since the beginning of COVID vaccination drive in India that started from January 16, 2021, and which needs to be dealt. Chairman of NEGVAC (National Expert Group on Vaccine Administration for COVID-19) during a media conference on this issue on January 19, 2021, admitted that there is hesitancy for COVID-19 vaccine in the country.

The success of a safe and efficacious COVID-19 vaccine will depend on its uptake. Hesitancy or resistance to vaccine (indicating a low level of intent to be vaccinated) would hamper the success of this vaccine drive to control the spread of this virus. Success of any vaccine campaigns is not solely dependent on efficacy and safety of the vaccine, and so is in the case of vaccines for coronavirus. Health experts believe that ending the COVID-19 pandemic depends on people getting vaccinated in order to reach herd immunity and limit the spread coronavirus.

The World Health Organization (WHO) has listed vaccine hesitancy in the list of its top ten priorities for 2019 and defined it as "Vaccine hesitancy – the reluctance or refusal to vaccinate despite the availability of vaccines – threatens to reverse progress made in tackling vaccine-preventable diseases." Mandatory vaccination, as a measure to deal with vaccine hesitancy, is not a reasonable option in individualistic societies because of anti-vaccination sentiment (Taylor, 2019). Mandatory vaccination can be ethically justified only in the case if there is a great threat to life or survival and vaccine is the only option as an effective measure, but the vaccine may not be safe or effective as testing process has been rushed. Therefore, volunteering for vaccination (in cash or kind) may be a more appropriate, ethical and viable option.

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With emerging research findings indicating vaccination hesitancy for coronavirus, it is important to identify the psychological roots/factors underlying the non-acceptance of vaccine or reluctance or hesitancy towards vaccination (Hornsey, Harris & Fielding, 2018) and ways to address these. Earlier studies have shown that vaccine hesitancy is a common phenomenon, with variability in the quoted reasons for vaccine hesitancy or non-acceptance of vaccine (Lane, MacDonald, Marti, Dumolard, 2018; Wagner et al, 2019). The most common cited reasons were: perceived risks, perceived benefits, religious beliefs, and lack of awareness or knowledge (Karafillakis, Larson, & Consortium, 2017; Pelcic et al, 2016; Yaqub, Castle-Clarke, Sevdalis, & Chataway, 2014).

There are multiple factors influencing willingness for vaccination or vaccine hesitancy (Murphy 2021; Myers & Goodwin, 2011; Ruiz & Bell, 2021; Sallam, 2021). The Health Belief Model (HBM) that explains and predicts a number of health related behaviors, is one of the most widely accepted models to determine vaccine hesitancy (Alhalaseh, Fayoumi, & Khalil, 2020; Coe, Gatewood, Moczygemba, Goode, & Beckne, 2012). Previous studies have recognized constructs in Health Belief model as important predictors of vaccination uptake in case of influenza (Brewer, Chapman, Gibbons, Gerrard, McCaul, & Weinstein, 2007; Tsutsui, Benzion, & Shahrabani, 2012; Shahrabani, & Benzion; 2010). The main constructs in health belief model are perceived susceptibility and severity of disease, perceived benefits and barriers of vaccination and cues to action (Champion & Skinner, 2008; Becker, Maiman, Kirscht, Haefner, & Drachman, 1977; Janz & Becker, 1984; Rosenstock & Strecher, 1988). Perceived susceptibility takes into account the beliefs related to getting infected by the disease, perceived severity refers to the beliefs regarding the negative outcomes of getting infected by the disease. In the context of vaccine, perceived benefits are referred to as recognized benefits associated with being vaccinated, and perceived barriers are defined as the beliefs about the tangible and psychological costs of getting vaccinated. Cues to action are signals for getting vaccinated.

The primary focus of the study is to understand health beliefs related to vaccination hesitancy for COVID-19 vaccine in order to suggest strategies to increase acceptance for vaccine and facilitate the uptake of the vaccine. The present study aimed to assess vaccine hesitancy and to identify the health beliefs as potential predictors of vaccine hesitancy.

Objectives:

1. To assess the prevalence of willingness for vaccination and unwillingness (vaccine hesitancy).
2. To compare health beliefs related to coronavirus (COVID-19) and its vaccination among willing to get vaccinated and not willing (vaccine hesitancy) groups.
3. To identify the health beliefs related to coronavirus (COVID-19) and its vaccination as predictors of intention for vaccination.

Hypotheses:

1. There would be higher prevalence of willingness for vaccination than for unwillingness.
2. There would be significant difference in health beliefs related to coronavirus (COVID-19) its vaccination among willing to get vaccinated and not willing (vaccine hesitancy) groups.
3. The health beliefs associated with COVID-19 and its vaccination would significantly predict intention for vaccination.

Method

Participants

The sample consisted of 263 respondents (mean age 37 years) who filled and submitted the online survey from January to March, 2021. The participants of the present study had a greater representation from the aged 24 to 40 years (48.28%). The total sample consisted of 122 males and 140 females; one participant preferred not to say regarding gender. The participation in the present study was voluntary and the consent of the respondent was implied from the online submission of the Google form (online survey). The inclusion criteria was that the respondent should be a citizen of India with age 18 years or older.

Measures

The survey consisted of questions that assessed

1) *Demographic information:* Details related to personal information like age, gender, marital status, occupation and email ids were collected.

2) *Attitude towards COVID-19 vaccination:* Items based on Health Belief Model were used to assess the respondents' perception of coronavirus and COVID-19 vaccination. There were two items each for assessment of perceived susceptibility to coronavirus perceived severity of coronavirus disease, perceived benefits of vaccination against COVID-19, perceived barriers to vaccination and one item for cues to action. All the items required rating one's attitude or behavior on a 4 point rating scale i.e. 'strongly agree', 'agree', 'disagree' or 'strongly disagree'. Willingness to receive a COVID-19 vaccine was assessed using a one-item/ question where responds had to express their willingness to take vaccine against COVID-19 if/when available i.e. willing or unwilling (vaccine hesitancy).

Procedure

The online survey was advertised as a research designed to understand attitude towards COVID-19 vaccination; which would help to unravel the complexity of the matter (vaccine hesitancy) and help in developing psychological strategies to improve vaccine acceptance and intention to vaccinate. The survey was developed on Google form and the link for the survey was shared through emails, WhatsApp, Facebook, and Messenger.

Results

The present study aimed to assess intention towards vaccinate (willingness for vaccination or vaccine hesitancy) and to identify the health beliefs as potential predictors of vaccine hesitancy. Descriptive statistics, t-test and logistic regression were applied to analyze the data. In the current study, it was observed that almost 70% (69.58%) expressed willingness for vaccination and approximately 30% expressed hesitancy. The observed frequencies (Observed N) was 80 for not willing to get vaccinate and 183 willingness for vaccination. The expected frequencies (Expected N) of intention to vaccinate i.e. vaccine hesitancy (not willing to get vaccinate) and vaccine acceptance (willingness for vaccination) was 131.5 for each. Further, from the results of chi-square goodness-of-fit test as depicted in the table , $\chi^2(1) = 40.338$ ($p < .01$), it can be inferred that there are statistically significant differences in number of people expressing willingness and unwillingness for vaccination. Hence, the first hypothesis, which stated that a higher prevalence for vaccine acceptance, stands proved. But the 30% of the respondents who expressed vaccine hesitancy are of great concern and calls for further analysis to better understand the beliefs related to COVID vaccination. Based on the responses of the participants on intention to receive a COVID-19 vaccine, the sample was divided into two groups willing to get vaccinated and not willing (vaccine hesitancy). The results in Table 1 depict the means of the two groups (willing to vaccinate & not willing/ vaccinate hesitancy) on the COVID and its vaccination related health beliefs i.e. perceived susceptibility, perceived severity, perceived benefits, perceived barriers and cues to action. The t test was applied to compare the mean differences between the two groups on the observed health beliefs associated with COVID and its vaccination. It results in the Table 1 clearly show that the two groups differed significantly on perceived susceptibility of COVID disease/infection (t-value=3.958, $p<0.01$), perceived benefits of getting vaccinated (t-value=8.869, $p<0.01$) and perceived barriers in getting vaccinated (t-value= 4.206, $p<0.01$). It was observed that the individuals who were willing to get vaccinated scored significantly lower than individuals not willing or having vaccine hesitancy on perceived susceptibility of coronavirus and benefits of vaccination (low score indicates greater perceived susceptibility and benefits of vaccination). Further, it was noted that the individuals who were willing to get vaccinated scored significantly higher than individuals not willing or having vaccine hesitancy on perceived barriers in getting vaccinated (high score indicates less perceived barriers). This implies that individuals having vaccine acceptance expressed more perceived susceptibility regarding COVID infection; and they also perceived greater benefits of vaccination and less barriers associated with vaccination as compared to individuals having vaccine hesitancy. The two groups did not significantly differ on the other two variables i.e. perceived

severity and cues to action. Thus, the groups significantly differed on three out of five health beliefs i.e. perceived susceptibility, perceived benefits and perceived barriers. Therefore, the second hypothesis that stated there would be significant difference in health beliefs related to COVID-19 and its vaccination among willing to get vaccinated and not willing (vaccine hesitancy) groups, stands proved.

Table 1: *Descriptive Statistics and mean comparisons*

Willingness for vaccination Groups	N	Mean	S.D	t
Not willing ***(vaccine hesitancy)***	80	6.225	1.646	3.958**
Willing	183	5.377	1.578	
Not willing ***(vaccine hesitancy)***	80	5.138	1.682	1.837
Willing	183	4.710	1.757	
Not willing ***(vaccine hesitancy)***	80	5.363	1.536	8.869**
Willing	183	3.612	1.444	
Not willing ***(vaccine hesitancy)***	80	3.700	1.521	4.206**
Willing	183	4.667	1.792	
Not willing ***(vaccine hesitancy)***	80	1.675	.883	.818
Willing	183	1.7705	.866	

Further, logistic regression analysis was applied in order to identify the health beliefs as potential predictors of intention for vaccination i.e. willing to get vaccinated and not willing (expressing vaccine hesitancy).

Table 2: *Omnibus Tests of Model Coefficients*

		Chi-square	df	Sig.
Step 1	Step	85.517	5	.000
	Block	85.517	5	.000
	Model	85.517	5	.000

Table 3: *Model Summary*

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	237.640[a]	.278	.392

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

From the results of the Omnibus Tests (chi-square values= 85.517, p=0.000), it can be implied that the model as a whole is significant. The explained variation in vaccine willingness or hesitancy based on our model ranges from 27.8 percent to 39.2 percent, depending on the method (Cox & Snell R2 or Nagelkerke R2). Nagelkerke R2, a modification of Cox & Snell R2, is preferred method, so 39.2 percent variation in intention towards vaccination (willing or hesitancy) is explained by the model. Hosmer-Lemeshow test explains an overall goodness of fit by exploring whether the predicted probabilities are the same as the observed probabilities (indicated by p-values > 0.05). The results of Hosmer-Lemeshow test as depicted in Table 4 indicate good model fit.

Table 4: *Hosmer and Lemeshow Test*

Step	Chi-square	df	Sig.
1	2.663	8	.954

Table 5: *Classification Table*[a]

Observed			Predicted		
			Attitude towards vaccination		Percentage Correct
			0	1	
Step 1	Willingness for vaccination	0-Not willing (***Vaccine hesitancy***)	43	37	53.8
		1-Willing	15	168	91.8
	Overall Percentage				80.2

a. The cut value is .500

Table 6: *Variables in the Equation*

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Susceptibility	-.135	.106	1.604	1	.205	.874
	Severity	-.134	.108	1.545	1	.214	.875
	Benefits	-.714	.117	37.201	1	.000	.490
	Barriers	.403	.119	11.567	1	.001	1.497
	Cues	.048	.223	.046	1	.830	1.049
	Constant	3.681	.849	18.787	1	.000	39.683

a. Variable(s) entered on step 1: Susceptibility, Severity, Benefits, Barriers, Cues.

The results in the classification table, Table 5, indicate how well the model predicts cases to the two categories of the dependent variable i.e. vaccine hesitancy and intention to get vaccinated. The specificity, which is the percentage of the correctly predicted / classified cases that did not have the intention of getting vaccinated (vaccine hesitancy), was 53.8 percent The sensitivity,

which is the percentage of the correctly predicted / classified cases that have the intention of getting vaccinated, was 91.8 percent. The model's overall classification was 80.2 percent.

The coefficient of perceived susceptibility was -0.135, as shown in Table 6, and Exp(B) was 0.874. Thus, if perceived susceptibility is increased by one unit (high score indicates lower perceived susceptibility), the odds of intention to get vaccinated is lowered by 12.6 % {(0.874-1) x 100% = 12.6%}. The coefficient of perceived severity was -0.134 and Exp(B) was 0.875. Therefore, with increase of one unit in perceived severity (high score indicates lower perceived severity), the odds of intention to get vaccinated is lowered by 12.4 % {(0.875-1) x 100% = 12.4%}. Coefficient of perceived benefits was -0.714 and Exp(B) was 0.490. If perceived benefits is increased by one unit (high score indicates lower perceived benefits), the odds of intention to get vaccinated is lowered by 5.1 percent {(0.490-1) x 100% = 5.1%}. The coefficient of perceived barriers was 0.403 and Exp(B) was 1.497. Thus, if perceived barriers is increased by one unit (high score indicates lower perceived barriers), the odds of intention to get vaccinated is increased by 49.7 percent {(1.497-1) x 100% = 49.7%}. The coefficient of cues to actions was 0.048 and Exp(B) was 1.049. Therefore, with increase of one unit in cues to action (high score indicates lower need to cues to action), the odds of intention to get vaccinated is increased by 4.9 % {(1.049-1) x 100% = 4.9%}. The Wald statistics, as shown in Table 6, reports that 2 out of 5 health belief variables namely perceived benefits (Wald=37.201, $p< 0.01$) and perceived barriers (Wald=11.567, $p< 0.01$) were significant to the prediction of the odds of change in intention to vaccinate against COVID. Thus, the third hypothesis which stated that health beliefs related to COVID-19 and its vaccination would significantly predict intention for vaccination, stands proved.

Discussion

This study assessed intention towards vaccination (willingness for vaccination or vaccine hesitancy) and assessed the applicability of the HBM to identify the health beliefs as potential predictors of vaccine hesitancy. The results of t-test suggested that individuals who are willing to get vaccinated significantly perceive greater susceptibility to COVID, perceive more benefits of getting vaccinated and perceive fewer barriers to vaccination, compared to individuals who are not willing to get vaccinated, expressing vaccine hesitancy. Further, from the results of logistic regression analysis, it is revealed that in the context of intention towards vaccination Health Belief Model as a whole is significant, explaining variation in intention towards COVID-19 vaccination and correctly predicting intention for vaccination. The health beliefs related to COVID, perceived susceptibility of getting COVID infected, perceived severity of infection and associated complications, perceived benefits of vaccination, perceived barriers like concerns regarding vaccine efficacy, safety and side-effects and cues to vaccination, contribute in predicting vaccination intent. The two health beliefs i.e. high perceived benefits and low perceived barriers were the significant predictors of change in intention to vaccinate. Similar, results were reported by Lin, Hu, Zhao, Alias, Danaee & Wong (2020) that suggested high perceived benefits and low perceived barriers to vaccine as the most significant constructs that influence intention for COVID-19 vaccination. Taylor, Landry, Paluszek, Groenewoud, Rachor, & Asmundson (2020) found that vaccine rejection was strongly associated with lack of trust or mistrust of vaccine and concerns regarding commercial profiteering by pharmaceutical companies, suggesting perceived barriers as important predictors of vaccine hesitancy. Guidry et al. (2021) also found that greater perceived susceptibility to COVID-19, more perceived benefits of getting vaccinated, less barriers associated with vaccination, and high on self-efficacy for getting the vaccine predict willingness to get vaccinated for COVID-19. They also reported that concerns about rushed vaccine development appear to be the crucial factor in willingness to get vaccinated. Fisher, Bloomstone, Walder, Crawford, Fouayzi, & Mazor (2020) also highlighted the vaccine specific concerns, need for adequate information related to vaccine and lack of trust as major reasons for vaccine hesitancy. Tewari (2021) conducted a survey and have reported that around 39% of people who express vaccine hesitancy

said that they would be ready to take the vaccine if leaders (Members of Parliament, and Members of Legislative Assembly) in central and state government lead by example and take the vaccine/shot. This would help in reducing the perceived barriers towards vaccination in public by increasing trust in the vaccine.

It can be implied from the results that perceived benefits and barriers to vaccination significantly predict the vaccine hesitancy and willingness for COVID-19 vaccination. Hence, it is important to share adequate information and clinical evidences of efficacy and safety of COVID-19 vaccines with the public that would help in reducing perceived barriers and increasing perceived benefits of vaccination. Health Psychologists need to develop intervention strategies for addressing beliefs related to vaccination so as to enhance acceptance for COVID-19 vaccine. In order to increase acceptance for vaccine and promote willingness for vaccination, psychologists should focus on changing the beliefs to bring a change in attitude towards vaccination, especially psycho-educating about the benefits of vaccination and targeting fears associated with vaccination through counseling and psychological interventions for reducing the barriers in getting vaccinated. Now with safe and effective vaccine in hand, psychologists can play an important role in ensuring vaccine uptake by identifying the best way to combat vaccine hesitancy and misinformation related to COVID-19 vaccine by communicating benefits and risks in the right way (Pappas, 2021). Effective health communication strategies, like advertorials and testimonials from health professionals, health workers and persons who get vaccinated, may facilitate the process of changing beliefs regarding vaccine thereby reducing vaccine resistance and help in ending this pandemic. This also calls for collaborative efforts from health professionals, governments, health policy makers, and various media sources to develop public acceptance towards COVID-19 vaccine. Psychologists can help in developing and promoting willingness for vaccination and thereby improving rate of vaccination uptake. Thus, Psychological science would be at the forefront in fight back against hesitancy towards COVID-19 vaccination (Pappas, 2021).

Another important concern associated with COVID-19 vaccination is adherence to social distancing norms even after getting vaccinated which means even after receiving the vaccine people must continue taking all precautions like use of face masks, hand sanitization and maintain physical distancing. Authors in a previous study had identified cognitive flexibility as a important predictor of adherence to (pro)social distancing guidelines (Hooda, Sharma & Yadava, 2021). This highlights the need to address cognitive processes, especially beliefs and cognitive flexibility, for promoting willingness for vaccination and to improve compliance with (pro)social distancing norms.

There are certain limitations of the current investigation that should be taken into consideration while analyzing and interpreting the results. First and formost, due to the use of an online survey (advertised and circulated the survey link largely through social media platforms like whatsapp, facebook) results may not be generalizable to the wider population, because of the selection bias. In this survey, adults between the ages of 24 to 40 years were over-represented, while older adults ages 50 and above were under-represented in the sample. Respondents suffering from chronic disease or with any co-morbidity were also under-represented. It is also noteworthy that this study did not take into account some possible factors that may affect willingness for vaccination or vaccine hesitancy such as efficacy of the different vaccines and the need for booster doses. Furthermore, as present investigation was a self-report study there are chances of self-reporting bias and a tendency to report socially desirable responses. In this study, although the willingness for vaccination is higher among respondents, owing to the limitation of non-representation of the population in the current study, there is a need for more future studies to conclusively determine intention towards vaccination. Moreover, willingness does not equal vaccination behaviour, as there are people who are not ideologically against vaccination but still don't actually get vaccinated. Thus, there is a need to take in account this issue of intent versus action, also raised by Pappas (2021). This information would help to provide insights into targeted intervention for specific section of population for improving

vaccine uptake. Even with these limitations, the strength of the present investigation is that it helped in identifying the important health related beliefs that influence intention to be vaccinated and would in turn determine vaccine uptake.

Conclusion:

Thus, Health Belief Model can be used to design and develop strategies for reducing vaccine hesitancy, boosting willingness for vaccination and COVID-19 vaccine uptake. The findings of the present study highlight the need to develop psychological interventions focusing on reducing perceived barriers and psycho-educating about the benefits that would definitely help in reducing vaccine hesitancy and improve willingness for vaccination. The finding of this study emphasizes the need for developing psychological intervention targeting cognitive processes for promoting willingness for vaccination and adherence to (pro)social distancing even after vaccination, that may in turn improve physical and mental health during the current COVID health crisis.

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Original Paper

Mental Health Literacy During Pandemic: Effectiveness of a New Digital Program for Rural Residents in India

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Mental health literacy (MHL) is important for the prevention, early identification and treatment of mental health problems. However, its benefits have not been fully realised in rural India, which homes the majority of India's population. The current study assessed the level of well-being among rural residents and evaluated the effectiveness of a new digital intervention designed to improve MHL and well-being of rural residents. The four week intervention involved participants spending 20-25 minutes to engage with educational materials daily. The content of each week centred around a particular theme: mental health awareness, mental health disorders, lessons from positive psychology and self-help happiness strategies. Participants completed pre-test quantitative measures of well-being (happiness, life satisfaction and quality of life) and provided qualitative responses revealing their MHL level. In the post-test, participants completed the well-being measures again, elaborated their experience of the intervention and its utility during pandemic. Quantitative assessment of baseline well-being measures indicated moderate level of happiness, life satisfaction and quality of life. Qualitative responses revealed that despite having basic understanding of mental health, participants lacked knowledge that is crucial for timely detection and help seeking for mental illness. A significant improvement in happiness, life satisfaction and quality of life was observed after the intervention. Participants positively evaluated the benefits of the intervention in the backdrop of pandemic and displayed willingness to engage in similar future initiatives. The intervention appears promising in enhancing MHL and well-being among rural residents.

Keywords: mental health literacy, rural community, digital intervention, positive psychology, well-being

Mental health is considered a health priority in the world sustainable development goals (World Health Organization, 2022a). The scope of mental health goes beyond mere absence of mental illness and incorporates psychological well-being for effective functioning (World Health Organization, 2022b). In India, one in seven people suffer from mild to severe mental disorders (Sagar et al., 2020). To prevent mental illness and promote mental health, the Government of India has launched several initiatives e.g. *MANAS Mitra*, 2021, a digital well-being platform to promote positive attitudes and raise community awareness about well-being (Press Information Bureau, 2021). Considering well-being and digital health a priority, the 2022 budget proposes the National Tele-mental Health Program to extend the benefits of quality counselling and care services to a wider population (Minister of Finance, 2022). Other policy initiatives include the Mental Health Policy (2014), Mental Healthcare Act (2017), National Mental Health Program (1982), National Rural and Urban Health Mission (2005 and 2013), National Adolescent Health Programme (2014), and the Ayushman Bharatinitiative (2018). However, poor implementation, lack of resources, discriminatory attitude, stigmatization, lack of adequate knowledge, misinformation and poor professional to population ratio (0.29 psychiatrists, 0.07 psychologists, 0.06 social workers and 0.80 mental health nurses for 100,000 people) prevent thousands of people from receiving the help, they need (World Health Organization, 2017).

Several studies have evidenced the negative impact of pandemic on mental health (Panchal et al., 2021; Vindegaard & Benros, 2020; Xiong et al., 2020). The low availability and accessibility of mental health services was magnified during Covid-19 pandemic. During the pandemic, mental health services were disrupted in 93% of countries (World Health Organization, 2020), mostly affecting low and middle-income countries that lack sufficient funds. This impact was similarly realised in India where all mental health services were compromised (Grover et al., 2020). Consequently, India recorded a 10% increase in suicide rates in 2020 as opposed to 2019 (National Crime Records Bureau, 2021).

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The historical emphasis on physical health has downgraded the perceived importance of mental health (Gururaj et al., 2016). This is especially prevalent in rural India which suffers further deprivation because of the inequitable concentration of mental health services in urban areas (Kumar, 2011). Consequently, the concept of mental health is still in its infancy among the rural population. A comprehensive resolution should start by psycho-educating the rural population about the importance of mental health through effective mental health literacy (MHL) initiatives, while making mental health services readily and equitably available.

MHL refers to knowledge of and beliefs towards mental illnesses that aids its detection, management and prevention. It encompasses the ability to (a) recognize psychological disorders, (b) seek reliable information about mental health, (c) identify potential mental illness risk factors and causes, (d) develop a positive attitude towards seeking professional help, (e) learn self-help interventions, and (f) seek information and help for mental health difficulties when required (Jorm, 2000). MHL interventions aims to achieve these by providing reliable and non-stigmatizing information about mental health difficulties. It equips recipients with tools to effectively cope with stress, navigate through life problems, identify at-risk behaviours (in self and others) and timely seek help (Riebschleger et al., 2019).

Most research on MHL interventions has been documented in the west with only a few studies from low and middle-income countries like India (Saraf et al., 2018). The extant literature from India has also had a selective scope. Their primary focus on urban adolescent and young adult population deprives us of a holistic understanding of the current MHL status in India. Rural India, which accounts for the majority of India's population, therefore, requires urgent research attention. Previous studies on rural population have identified the prominent role of community support and religious-spiritual practices such as *satsang* (Singing religious/spiritual folk songs in a group) and meditation in enhancing mental health (Singh et al., 2020; Singh, Kaur, et al., 2014). For a strategy to work effectively and be appealing in rural India, it is important to amalgamate such culture-specific practices into the current or future MHL initiatives (Kermode et al., 2010).

Rural India has seen an "internet revolution" following an exponential rise in its internet usage during the pandemic. If these trends were to continue, by 2023, India will have around 650 million internet users with a rural audience accounting for more than half of new users (Madaan, 2020). In the last year, online was the second most consumed media after television, and YouTube and WhatsApp emerged as the most popular video streaming and messaging platforms (used by 87% people) among rural residents (GroupM Dialogue Factory and Kantar, 2021). Several governmental and non-governmental organizations use these platforms to educate people about healthcare and social issues, and train people in the best farming and agricultural practices. Platforms such as YouTube are at the forefront in providing e-mental health services and disseminating psychoeducation digitally (Woo & Kung, 2018). As a convenient, economical and accessible tool, it has the potential to reach a large audience in a short period. By ensuring confidentiality and anonymity, it has proved beneficial in psycho-educating people while dealing with cultural stigma (Lam et al., 2017). The popularity of YouTube and increasing internet penetration in the rural sector offers potential for the digital delivery of MHL to increase well-being.

The present study aims to address the existing research gap in rural MHL and develop a novel MHL intervention. The objectives of the present study are: (a) Assessment of the baseline MHL, well-being level and well-being determinants of rural residents. (b) Assessment of a new digital educational intervention to increase MHL and well-being of rural residents.

Method

Participants

We used convenience sampling to recruit Hindi speaking participants from villages and small towns in North India. Information about the study was circulated on social media and interested people were asked to share their names and WhatsApp mobile number. They were then contacted by authors and given details of the study. Originally, the study was conceptualized for females. But some male participants also

expressed their interest. Therefore, we decided to open the study for everyone regardless of their gender. We included participants who either resided in a village or frequently visited their village (at least once a month). The third and fourth authors additionally approached participants from the rural locality to get the desired number of participants. Since our intervention was administered digitally, we only recruited participants who had access to smartphones and reliable internet connections throughout the duration of the study. Our final pre-test (N=62; M_{age}=31, SD=13) and post-test (N=44; M_{age}=33, SD=14) sample was predominately women of age 18-85 years. About 29% participants were excluded either because they did not engage with (less than 75%) the intervention materials or complete the post-test assessment. Socio-demographic characteristics of both samples are presented in Table 1.

Table 1. Socio-demographic Characteristics of Participants

Variable	Pre-test	Post-test
N	62	44
Gender		
Female	55	40
Male	6	4
Education		
High-school or lower	21	18
Graduation	19	12
Post-graduation or higher	22	14
Marital Status		
Single	30	12
Married	25	20
Widow	7	7
Family type		
Nuclear	39	25
Joint	23	19

Design

The research adopted a mixed-methods study design. Along with socio-demographic information, our qualitative survey explored participant's level of MHL (e.g., What do you understand by mental health?), knowledge and attitudes towards mental health disorders (e.g., What do you understand by depression? Why do you think it can happen to us?) and help-seeking behaviour (e.g., Do you think one should seek help for their depression, stress and anxiety problems? Why do you think so?). We quantitatively measured well-being using the 8-item European Health Interview Survey- Quality of life (EUROHIS-QOL) and 2 items from the Cantril ladder of life scale.

Measures

EUROHIS-QOL 8 (Whoqol Group, 1998)

The 8-item scale measures quality of life in four dimensions, namely psychological, physical, social and environmental. Participants indicated their satisfaction with several aspects of their life using a five point Likert scale. A high score indicated higher perceived quality of life. Previous studies have reported good reliability for the scale in United Kingdom (α=0.80), Germany (α=0.80) France (α=0.73) and India (α=0.85) (Power, 2003; Singh et al., 2020). We found the scale to have high reliability (α=0.82).

Cantril Ladder of Life (Cantril, 1965)

Two items from the Cantril ladder scale were used to assess participants' level of happiness and life satisfaction. An 11-point scale (0-10 ladder) was used where a low rating meant low level of happiness and life satisfaction and high ratings meant high level of happiness and satisfaction. Participants also provided justification for their ratings (like in Singh et el., 2020).

Procedure

In the beginning, participants were informed about the confidentiality of their information. Participants provided informed consent and were informed that they were free to withdraw at any point. Participants completed an online socio-demographics, pre and post-test questionnaires. Since some participants were not technologically proficient to complete the online questionnaire, authors recorded and entered their answers into the system. Since WhatsApp was a popularly used mobile application, the selected intervention material (YouTube video links, posters and case studies) were shared on this application daily for four weeks. In addition, participants were shared a short video on applied health strategies each day (titled as *Baat pate ki)*. Selected video link and poster were sent daily to two closed WhatsApp groups created each for male and female

participants (explicit consent from participants was sought before creation of WhatsApp group). The participants engaged with the intervention materials daily for 20-25 minutes. The third and fourth authors conducted regular follow-ups and resolved any technical difficulty to ensure compliance with the intervention. In addition to the above-mentioned measures, during post-test, participants were asked to report their experience of the intervention (e.g., relevance, utility etc.) and their experience during the pandemic.

Intervention

The educational intervention aimed to increase the level of MHL, and equip participants with evidence-based positive psychology self-help tools to enhance well-being. The intervention involved daily sessions spanning over 4-weeks, with contents of each week representing a particular theme, namely mental health awareness, mental health disorders, lessons from positive psychology and self-help happiness strategies.

The first author leads a digital mental health awareness initiative, *Manthan-Gyaan aur Vigyan,* which aims to promote MHL and well-being among Hindi speaking rural population through interactive and easy-to-understand psycho-educational videos. The content of these videos are based on empirical research and talks conducted by clinical and research psychologists. The YouTube channel has over 250 videos under 12 different categories and is subscribed by more than 5800 people. The initiative extends its outreach to other social media platforms as well (Instagram:https://www.instagram.com/mentalhealth_ks/?hl=en,.Facebook:https://www.facebook.com/profile.Ph p?id=100068966450438). Videos and other educational content for the intervention were selected from these sources which fit the four themes. The aim of each theme along with examples are presented in Table 1.

Results

For quantitative analysis, we used SPSS version 26. Pearson's correlation coefficient was computed to examine the association between baseline quality of life, happiness and life satisfaction. Additionally, we conducted a series of Kruskal-Wallis and Mann-Whitney U tests to evaluate how happiness, life satisfaction and quality of life varied across the socio-demographic variables. Inductive content analysis of qualitative responses was used to examine the MHL status of our participants. The effectiveness of the educational intervention in enhancing well-being was assessed using paired t-test and effect size (Cohen's d).

Table 2. Main Objective of Each Theme of the Intervention

Theme	Aims	Example video
Mental health awareness (Week1)	Educate people about mental health and its importance Raise awareness about Covid-19 and encourage covid appropriate behaviour Equip people with effective coping techniques to manage Covid-19 induced stress	*Covid-19 and Mental Health (Covid-19 aur maansik Swastya): https://www.youtube.com/watch?v=d4VifgtsMHQ)*
Mental health disorder (Week-2)	Spread awareness about common mental health disorders Address myths and misinformation to reduce stigmatization Encourage help-seeking behaviour Inform where to seek help from	*Depression (Avsaad): https://www.youtube.com/watch?v=mlse9CsxT2g)*
Lessons from positive psychology (Week 3)	Familiarize people with well-being enhancing positive psychology constructs (such as optimism) Help people focus on their strengths than weaknesses Develop resilience to deal with life stressors (esp. Covid-19 related)	*Recipe to be happy (Khush rehne ke liye recipe; https://www.youtube.com/watch?v=uaePw1fogRU)*
Self-help strategies (Week 4)	Demonstrate the importance of self-help strategies to enhance well-being Develop an understanding of positive behaviour characteristics (positive thinking, emotional intelligence) and how to foster them.	*Program to enhance emotional intelligence (Bhavnatmak Budhi badan ke program): https://www.youtube.com/watch?v=rtjRzeDFxVM)*

Baseline Assessment

Happiness, Life satisfaction and Quality of Life

Overall, Cantril ladder ratings indicated moderate level happiness with percent participants being slightly happy and 14 percent slightly satisfied, 43 percent and 39 percent moderately happy and satisfied and 52 percent and 47 percent highly happy and satisfied, respectively (following Singh et al.'s (2020) categorization). We found a strong positive correlation among the three variables ($p<0.001$). The mean, standard deviation and correlations between our outcome measures are presented in Table 3. A Kruskal-Wallis test revealed a significant difference in pre-test quality of life across education level, ($H(2)=6.74$, $p<0.05$). Quality of life was higher in participants with graduate level education (Md=33) in comparison to those with high-school (Md=31) or post-graduate level education (Md=31.5). A significant Mann-Whitney U test indicated that pre-test life satisfaction was greater among people in a joint family (Md=8) than those in nuclear family (Md=6), $U=257.5$, $z=-2.82$, $p<0.05$). No significant differences were observed for other socio-demographic variables, both during pre and post-test.

Table 3. *Means, Standard Deviation and Correlations between Outcome Measures.*

Sr no	Outcome Measure	Mean	SD	1	2	3
1	Happiness	7.03	1.95	-		
2	Life Satisfaction	6.85	2.05	.673**	-	
3	Quality of Life	30.66	4.70	.602**	.523**	-

**$p < 0.001$

Responses of our participants' revealed that they considered good family relations, community harmony, spiritual and cultural practices and positive thinking as factors enhancing well-being. On the contrary, family problems, strained social relationships, societal expectations, fear of judgement, gender inequality, work-related stress, insufficient resources, overthinking, and health issues were identified as prominent well-being disruptors.

Mental Health Literacy

Responses from our participants indicated brief understanding of the several aspects of mental health. Good mental health was described as a peaceful state of mind which is free from worry about the past, present or future. For our participants, a mentally healthy person has a balanced state of mind, experiences positive emotions, can handle life pressures and contributes meaningfully to the community. Whilst most of our participants' responses indicated basic MHL, they also admitted the lack of adequate knowledge. Our participants were familiar with mental health disorders such as depression and anxiety and were able to recall factors leading to depression (such as traumatic events, family conflicts) and anxiety (such as future uncertainty, overthinking). About 35 percent of participants admitted knowing someone with some mental health difficulty. Additionally, 72 percent believed that mental health illness is misunderstood and stigmatized in our society. Further, 75 percent of participants believed that mental health difficulties are treatable and showed encouragement towards seeking help from mental health professionals, family members and friends. Overall, all participants had a positive attitude towards mental wellness and gained information about mental health primarily from internet/social media (24 percent), mental health professionals (19 percent) and friends, family and educators (19 percent). However, 24 percent of participants report having no information, 77 percent indicated lack of sufficient information but 100 percent of participants appreciated the opportunity to learn more about mental health. Despite incomplete understanding, 100 percent of participants considered both physical and mental health to be equally valuable.

Table 4. Mean, Standard Deviation and Paired Samples t-test for the Intervention.

Outcome Measure	Pre-test		Post-test			
	M	*SD*	*M*	*SD*	*t*	d
Happiness	6.82	2.13	7.57	1.81	-3.83**	0.57
Life Satisfaction	6.91	2.15	7.64	1.96	-2.34*	0.35
Quality of Life	30.34	5.10	32.50	4.41	-3.64**	0.54

Note. *$p < 0.05$, **$p< 0.001$. d = Cohen's d.

MHL Intervention

Table 4 presents the results of paired sample t-tests and associated effect sizes. Overall, there was a statistically significant increment in the level of happiness, life satisfaction and quality of life in our participants after the intervention. The Cohen's d for this increment was of small to medium level. Post intervention, 2 percent participants were slightly happy and 5 percent slightly satisfied, 41 percent and 32 percent moderately happy and satisfied and 57 percent and 63 percent highly happy and satisfied, respectively.

The analysis of participants' responses indicated a positive evaluation of the MHL intervention. Along with psycho-educational benefits, the intervention equipped people with tools to cope with life stressors in a healthier and more positive manner. Participants considered the intervention helpful and timely, especially in the backdrop of the Covid-19 pandemic when social interaction is limited and people are suffering from extreme financial difficulties and health (both physical and mental) concerns. They highlighted how the intervention helped them become familiar with several aspects of mental health. By engaging with the intervention materials daily, the participants observed positive changes in their routine behaviour and social interactions. They appreciated the use of simple Hindi language and the interactive video format to explain complex psychological information, which enhanced their understandability. All the participants expressed their desire to engage in such MHL initiatives in the future, while also urging others to participate. They suggested that such initiatives should be extended to a wider population.

Discussion and Conclusion

The availability and accessibility of mental health services in a middle-income country like India are far from adequate (Gururaj et al., 2016). With the limited available services being predominately urban, the rural sector finds itself in a particularly disadvantaged position. Additionally, improving mental healthcare accessibility to rural communities requires concurrent efforts to endow rural residents with the necessary knowledge on how, when and where to access these services. This can be achieved through effective psycho-educational programs that are tailored for this population.

The current study was a mixed-methods inquiry into the well-being (happiness, life satisfaction and self-perceived quality of life) and MHL status of rural India. Factors such as good familial relations, community support and spiritual and religious devotion helped our participants maintain happiness, life satisfaction and perceived quality of life. However, problems in social relationships, societal constraints, health, finances, work and overthinking were noted as prominent factors that down regulated well-being. Further, some socio-demographic variables such as education level and family type played a role in influencing well-being. These findings are in line with previous well-being research on rural communities in India (e.g., Singh et al., 2014, 2020). Notably, none of the socio-demographics was associated with well-being measures during post-test. The covid-19 pandemic has necessitated the need for greater attention to mental health. Participants admitted the devastating impact of Covid-19 pandemic on their mental health. Consistent with Singh et al. (2022), we found that the lack of livelihood, financial difficulties, health issues, social isolation and future uncertainty had negatively impacted well-being.

With regards to the level of rural MHL, although responses from our participants indicate basic awareness about mental health, it certainly is not enough to avert the foreseeable mental health crisis. Our participants acknowledged the importance of mental health and identified the societal stigmatizing perception to mental illness as a barrier towards improved community mental well-being. Insufficient discussions on mental health and low MHL in rural areas acts as a catalyst for misbeliefs and misperceptions regarding mental illness, consequently birthing stigma (Kermode et al., 2009). Resonating this view, participants considered addressing societal stigma and misinformation as an important step towards a mentally healthy community. Despite having some knowledge about mental health difficulties (such as depression, anxiety and stress), our participants did not have satisfactory information regarding when and from where to seek help. This was similarly noted by Kermode et al. (2010) who found that despite recognizing the presence of mental illness in hypothetical

vignettes, rural residents lacked sufficient knowledge to suggest treatment.

As discussed, rural population in India need to receive adequate attention in the popular MHL initiatives. An effective effort to increase MHL would give adequate consideration to the complex socio-cultural diversity unique to the rural communities. The need for such tailored initiatives was recognized by our participants who expressed willingness to learn about mental health. The intervention pilot tested in the present study intended to promote MHL and equip participants with evidence based psycho-educational tools to increase their well-being level. Our results provide promising evidence in favour of the intervention. A significant improvement in the three well-being indicators, namely, happiness, life satisfaction and quality of life was observed after the intervention. However, our study did not control for the effect of socio-demographic variables in our post-test analyses. Follow-up studies can account for this limitation. Moreover, a retention rate of 70% was encouraging. Participants list the digital mode of delivery, simple Hindi language and interactive video format for explaining complex psychology ("bookish") information and high relevance in the backdrop of pandemic as some positive highlights of the intervention.

An effective mental health strategy in a large and socio-culturally diverse country like India would involve approaches that are sensitive to the unique cultural and regional variances. Despite comprising half of India's population, rural population have been left outside the purview of MHL research. Lack of sufficient resources and inequitable distribution of mental health services have additionally amplified the impact of pandemic in this region. Responding to the accentuated mental health crisis due to the Covid-19 pandemic, the 2022 budget proposes the national tele-mental health program to expand mental health services to remote areas. Relatedly, the increasing internet usage by rural residents offers promising prospects for the digital delivery of several mental health services. Under this context, this pilot study examined the under-researched rural perspectives on mental health. By developing a digital MHL initiatives tailored for the rural population, the study adds to the national (and global) efforts towards a mentally healthy community. The promising benefits of the intervention proposes policy makers, researchers, educators and healthcare professionals to adopt such digital MHL initiatives as a way of tackling mental health challenges and increasing well-being. The use of regional languages in interactive video formatting to educate would appeal to the target population. Digital mode of delivery would ensure a wide outreach that remains uninterrupted by the uncertain Covid-19 restrictions. Moreover, such initiatives would serve a dual purpose of promoting both digital literacy and MHL.

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Sleep Fluctuations During the Pandemic and Its Impact On Verbal Working Memory

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The Covid-19 pandemic is a global challenge that has caused significant alterations in most aspects of human life. One very natural consequence of the restrictions on movement and altered schedules was inadequate and improper sleep, especially among young adults. Sleep fundamentally influences human cognitive functioning, particularly memory. While former research has well documented the detrimental effects long term sleep deprivation can have on brain systems, very few studies have explored if similar implications follow only mild sleep deprivation, or irregular sleep timings. The present research first asked young adults (Mean Age = 22.5), to maintain a two-week sleep diary record. Participants then took a test of verbal working memory (the Letter-Number Sequencing task). The results showed a significant effect of Irregular Sleep Times on working memory performance ($F (1, 60)$, $p < .05$). These findings offer crucial insights into the effect of the pandemic on sleep, and have important implications for the field of health care for young adults.

Keywords: Covid-19 pandemic, mild sleep deprivation, irregular sleep times, working memory, young adults

The on-going Covid-19 pandemic is a globally shared major stressful event that has, since its outbreak in 2019, caused unexpected alterations in human lives. The heightened stress, anxiety, isolation, and the constant fear of keeping ourselves safe continues to take a toll on the physical and psychological health of many. With people trying to adapt to the new-normal ways of learning, working, planning, managing finances, fulfilling household obligations and maintaining health, the very crucial physiological function of sleep has taken a down step in the priorities.

Sleep, defined as 'a circadian state characterized by partial or total suspension of consciousness' (VandenBos, 2007), is naturally recurring and is regulated homeostatically and by circadian processes. It is also known to support the neurobehavioral domain of memory in numerous ways; for instance, it enhances neural replay and plasticity during reduced external input (Spencer, 2013). It is now known, as a scientific fact, that sleep and memory are interrelated systems. It thus consequently follows that any alterations in the time and duration of sleep will thereby affect memory. A systematic review by Jahrami et.al. (2021) focused on published work on sleep problems during the Covid pandemic between November 1, 2019 and July 5, 2020, from several scientific research sources, and found that 40% of people from general and healthcare populations had complaints of sleep related problems.

However, while the effect of long-term sleep deprivation on cognitive functions has been extensively studied, very few researches have highlighted the consequences that follow only mild loss of sleep, or irregular sleep schedules. This is important because with the pandemic in the background, it is not uncommon to have shorter sleep durations, or fluctuating sleep timings, especially among young adult populations. Public health researchers are also fairly concerned about the phenomenon of "revenge bedtime procrastination" seen mostly among young adults. Due to increases in work from home schedules, there is a blurring of personal and work time, disrupting work-life balance, and many young adults try to "catch up" on leisure by bingeing on media content late into the night, leading to sleepiness the following morning. (Megalhaes et al, 2020)

The present study employed a quantitative research approach with an aim to first identify participants' natural sleep patterns using a sleep diary. The use of a sleep diary, which was maintained by each participant over a 2-week period, was preferred over one-time administered sleep questionnaires because the latter compromises on the accuracy of reported bed times and hours of sleep (Ibáñez et al., 2018). The participants were then compared to see if memory, in particular, verbal working memory, was affected by having mild sleep deprivation and / or irregular sleep times.

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During periods of heightened stress, experiencing some disturbances in sleep is natural. But the 2019 outbreak of coronavirus, and the following mutants and variants have stretched the duration of the pandemic and the stress associated with it beyond what one could have ever imagined. The pandemic's waves, the recurring movement restrictions and the blurred boundaries of work from home have certainly distorted people's usual routine tasks, which were typically serving as reminders for sleep and wakefulness, keeping them in harmony with the natural light-dark cycles. With these changes, the sleep patterns of many have thereby changed too, increasing sleep related concerns in people across the globe. (Mandelkorn et. al., 2021). Besides poor quality of sleep (Banthiya et. al., 2021), a survey conducted in May 2020 in India showed that during the lockdown period, there was a noted shift to later bedtimes and wake up times, and reduced night time sleep duration in Indian adults as compared to the pre lockdown period (Gupta et. al., 2020). Such partial sleep loss has been shown to deteriorate performance on tests of working memory capacity over time (Santisteban et al., 2018). Neuroimaging studies investigating sleep loss and related working memory declines have further confirmed that activity decreases have been observed after sleep loss in fronto-parietal brain areas and associated with declines in several aspects of working memory performance (Reichert et. al., 2016).

Moreover, the irregularity in sleep timings noted during the pandemic period is also of concern. Human bodies are built for 16 hours of awakening, after which the sleep homeostatic drive is strong, demanding a period of rest. Frequent shifting of bedtimes may affect the body's sleep homeostasis, which has been found to have grave consequences on human physiological, psychological and emotional wellbeing. Besides causing behavioral concerns in children (Kelly et. al., 2013), and greater externalizing, internalizing and impulsivity in adolescents (Lapidaire et. al., 2021), irregular bedtime schedules has been shown to correlate negatively with academic performance in young adults. (Phillips et. al., 2017)

In addition to knowing that the current pandemic has impaired and disrupted sleep duration, quality and timings, it is also crucial to understand the effect this is thus causing to young adults' cognitive functioning, thereby warranting more research attention.

Method

Variables

The study focused on 2 *Independent Variables* (IV), each at 2 levels: IV1: Irregular Sleep Time (IRS), Level 1(Present), Level 2 (Absent), IV 2: Mild partial sleep deprivation (MPSD), Level 1: Present, Level 2: Absent. *Dependent Variable* (DV): Verbal Working Memory. The variables were operationally defined as follows: *Irregular Sleep Time*: Number of nights where a greater than 1-hour shift was made from the usual sleep time in the last 2 weeks. This was divided into 2 levels: Present (Greater than 1-hour shift present for 3 or more nights per week) and Absent (Greater than 1-hour shift present for 2 or less than 2 nights per week). Mild Partial Sleep Deprivation is defined as at least 1 hour of lost sleep per night than is normally needed as a function of age). The recommended hours of sleep for Indian young adults, according to the *National Medical Journal of India* is 7-8 hours per night (Akhtar & Mallick, 2019). Therefore, those sleeping for 6 or less than 6 hours per night, for at least 4 days each week, were identified as having Mild Partial Sleep Deprivation in the study. This was divided into 2 levels: Present: Night time sleep of 5-6 hours per night. Absent: Night time sleep of more than 6 hours per night. Verbal Working Memory was defined as participant's ability to hold certain pieces of information presented through the verbal modality in memory temporarily.

Hypotheses

H_1: There will be a significant difference in Letter-Number Sequencing scores of participants with present Irregular Sleep Times and absent Irregular Sleep Times.

H_2: There will be a significant difference in Letter-Number Sequencing scores of participants with present Mild-Partial Sleep Deprivation and absent Mild-Partial Sleep Deprivation.

H_3: The interaction between Irregular Sleep Times and Mild-Partial Sleep Deprivation will

have an effect on the participant's Letter-Number Sequencing scores.

Inclusion and Exclusion Criteria

Participants with high scores (Score > 22) on the Global Sleep Assessment Questionnaire (GSAQ), with current or past diagnosis of any chronic medical or psychological disorders, those who had traveled across time zones in the past 1 month, current reported use of any psychoactive or antipsychotic drugs, holding night-shift jobs or constantly changing work shifts were excluded from this sample. Whereas, only those participants who could read, write and understand English, having easy access to desktops with a keyboard or laptops were included in this sample.

Sample

The present study included participants, both males and females, between ages 20 – 35 years (mean age 22.5 years), residing in Mumbai and its suburbs. Participants were Graduates or Post - Graduates, either employed or not holding any jobs. The sampling method of Snowballing was used to reach potential participants, and all data was collected online between December 2020-April 2021. The total of 64 participants participated in the study (n = 64). However, the groups, devised as per the levels of the Independent Variables, did not have equal number of participants in each. That is, the groups were unbalanced. Table 1.1 summarizes the number of participants in each of the groups.

Table 1.1 *Number of participants in each of the 4 groups*

		Irregular Sleep Time		
		Absent	Present	Total
Mild Partial Sleep Deprivation	Absent	18	18	36
	Present	13	15	28
	Total	31	33	n = 64

Measures

The Global Sleep Assessment Questionnaire (GSAQ): The GASQ is a 11-item self-report questionnaire primarily used as a screening tool to detect sleep disturbances in general care populations. It was first introduced by Roth et. al. in 2002. The GSAQ was used as a screening tool in the study, in line with the inclusion criteria, and was used with the motive of not including any participant with an already present sleep disorder. The tool was administered online and participants whose scores fell in the top 33% of the scatter were excluded from participating in the study.

Core Consensus Sleep Diary (CSD) : The CSD, developed by Carney et al. (2012), is a 9-item, standardized, self -report tool which records night time sleep and daytime naps. The questions in the diary ask for the time that participants went to bed, the time when they tried to fall asleep, the duration of time it took them to fall asleep, number and duration of midnight awakenings, final awakening time, sleep quality, and number and duration of daytime naps. For the purpose of this research, the CSD was constructed digitally on a single sheet on Google spreadsheets, following the same order and response pattern of the questions.

The Letter-number sequencing task (LNS) Used as a measure of Auditory Working Memory in the Wechsler's Adult Intelligence Test – 4th Edition, the Letter Number Sequencing task has 10 items, comprising of 3 trials of each. The item length ranged from 2 - 8 sequences. For the current research study, the test was administered via a secured one-on-one video conferencing with each participant and their responses were noted on the Letter Number Sequencing Record Sheet.

Procedure

The data was collected in three distinct rounds, in the months of December 2020 (n = 21), March (n = 35), and April 2021 (n = 8). The procedure described below was uniformly followed across all three rounds. The process of participation was divided into three phases.

Phase 1 consisted of reading in the Participant Information Sheet - which included all ethically mandated disclosures, details of the study, and contact points, filling in the consent form, demographic details and the screening tool - GSAQ. *Phase 2* involved maintenance of the sleep diary for 2 consecutive weeks. The diary was constructed on Google Spreadsheets, unique to each participant and named after them. All necessary settings were enabled to allow only the

researcher, and the participant to access the diary. All participants in a particular round maintained the sleep diary between the same start and end dates to keep the experience of any social, political, cultural, atmospheric or festive event similar. During this time, participants were requested to abstain from alcohol, nicotine, and caffeine, and mention in the diary if they happened to consume any medications. Female participants were instructed to report if they had their menstrual cycles during the course, since research has shown that menstrual cycles may alter sleeping patterns (Baker & Lee, 2018). Participants were given an option to add daily reminders for the sleep diary to their devices' Google calendar. At the end of the 2 weeks, the link to the sleep diary was revoked, and sleep diaries of the participants were analyzed. For each participant, the difference between the time they fell asleep at night and their final wake uptime in the morning was taken as duration of night time sleep, barring mid-night awakenings. An approximation of sleep latency, i.e. the duration of time between trying to fall asleep and actually falling asleep, was recorded in the diary, but was not counted in the total number of hours of sleep. This was then used to identify the presence or absence of Mild Partial Sleep Deprivation, as per the operational definition of the variable.

Usual bedtimes of participants was derived by first noting the final time at which they fell asleep, considering the sleep latency period, for most nights in the week(s). Each participant was also subjectively asked about their usual bedtime during the Phase 3 test meeting. The total number of nights where an over 60-minute deviation from usual bedtime was noted were used to group participants with a presence or absence of Irregular Sleep Time, as per the operational definition of the variable. Based on their reported bedtimes and number of hours of sleep each night, participants (n=64) were then classified into one of the 4 groups-

Group 1. Participants with absent IRS, and absent MPSD (n=18)

Group 2. Participants with present IRS, and absent MPSD (n=18)

Group 3. Participants with absent IRS, and present MPSD (n=13)

Group 4. Participants with present IRS and present MPSD (n=15)

Sleep logs with missing data for more than 2 days during the 2-week duration were to be excluded from the final analysis.

Phase 3: This was conducted within 3 days of completing the phase 2 sleep diary record. The participants took the verbal working memory test, in a one-on-one online audio-video meeting. The test meetings were not recorded; the responses were noted manually by the researcher. They were additionally instructed to ensure no external disturbance, stable internet connectivity and good voice quality throughout the meeting. The only technological error noted during some of the test meetings was voice or video lag for a few seconds due to internet instability. The question or item, or participant's response which was poorly heard was adjusted for by either presenting the item again, or asking the participant for a clarity immediately.

Recovery sleep, meaning sleeping extra during the day or weekends, or daytime naps was reported but not adjusted for or considered in final analysis, since there is no concrete evidence of the restorative abilities of recovery sleep on cognitive functions as yet. (Chai et al., 2020). The data was entered into XLSTAT software, and an independent two- way ANOVA was computed to test the hypotheses.

Ethical Considerations

No sleep deprivation or any alterations to sleep time was imposed on the participants. No harm or changes in routine were caused to any participants. All participants were informed about the purpose, time duration, requirements of the study, and all ethically mandated disclosures were made. Complete confidentiality was maintained throughout the participation. Participants were allowed to opt out of participating from the study at any point of time, without having to give any reasons to do so.

Results

The present research was a 2 x 2 between groups factorial design, with the different levels of the Independent Variable consisting of different sets of participants and data. Participant's scores on the Letter Number

Sequencing task were statistically analysed using a two-way factorial Analysis of Variance (ANOVA) to test for the effect of both Independent Variables on the Dependent Variable.

Descriptive Statistics: Demographic Characteristics

Table 1.2 *Socio Demographic characteristics of participants (n=64)*

Gender	**Group1** *n (%)*	**Group 2** *n (%)*	**Group 3** *n (%)*	**Group 4** *n (%)*	**Total** *n (%)*
Male	4 (6.25)	5 (7.81)	9 (14.06)	6 (9.3)	24 (37.5)
Female	14 (21)	13 (20.3)	4 (6.25)	9 (14)	40 (62.5)

Age	**Group 1**		**Group 2**		**Group 3**		**Group 4**		**Total**	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
	21.8	*0.90*	*22.7*	*1.98*	*23.3*	*2.6*	*21.8*	*1.3*	*22.5*	*1.85*

Note: n = 64, G=Group

Inferential Statistics: Two-way ANOVA

The data met the assumptions of normality and homogeneity of variance for a two-way ANOVA.

Table 1.3 *Two-way ANOVA summary table for hypothesis 1, 2, and 3*

Source	*SS*	*df*	*Ms*	*F*	*Pr > F*
IRS	43.2	1	43.200	10.235	0.002
SD	10.126	1	10.126	2.399	0.127
IRS * SD	1.142	1	1.142	0.271	0.605
Error	253.242	60	4.221		
Total	307.71	63			

Note: Type III Sum of Squares

Hypothesis 1 stated that there will be a significant difference in Letter Number Sequencing scores of participants with present Irregular Sleep Time and absent Irregular Sleep Time. As can be seen in Table 1.3, there was a significant main effect of Irregular Sleep Time on the Letter Number Sequencing scores, F (1, 60) = 10.235, p < .05. As a result, the alternate hypothesis 1 was accepted. Looking at marginal means of the two groups in Table 1.4, it is evident that the mean scores for the Present group was higher than that of the Absent Irregular Sleep Time group.

Table 1.4 *Marginal Means for Letter Number Sequencing scores of participants with present and absent Irregular Sleep Time*

Irregular Sleep Time	Marginal Means	Standard error	Lower bound (95 per cent)	Upper bound (95 percent)
Absent	11.075	0.374	10.327	11.823
Present	12.733	0.359	12.015	13.452

The main effect for Mild Partial Sleep Deprivation, and the interaction effect between the two independent variables on the Letter Number Sequencing scores was found to be insignificant, with F (1, 60) = 2.399 and F (1. 60) = 0.271 respectively, as shown in Table 1.3. Thus, the alternative hypotheses 2 and 3 were rejected, and the null hypotheses were accepted.

Discussion and Conclusions

The present research aimed to study if there was a significant difference in the scores on a test of verbal working memory depending on the participant's irregularity in sleep times, and Mild Partial Sleep Deprivation. The results showed that the marginal mean score on the Letter Number Sequencing task for participants who had Irregular Sleep Time was significantly higher, as compared to participants with absent Irregular Sleep Time. This was interesting, because it could be postulated, based on past research findings, that having irregular bedtimes may lead to subtle disruptions in sleep homeostasis, thus affecting cognitive processes, including working memory. It hasshown that fluctuations in sleep-wake timing have a negative impact on cognitive functioning. (Dijk & Archer, 2009). The current research findings were in fact in direct contrast to this expectation and require more exploration.

Working memory system is sensitive to influences from a number of factors, and though sleep is among the primary processes that impact memory, it is still only one of the many internal and external determinants of memory functioning.Further work can be undertaken to explore whether, for instance, the awake time of

the study participants was spent engaged in activities that may augment verbal working memory, or whether they found themselves making an extra effort to perform the task speculating that their performance may be low due to their inconsistent sleep timings.

The observed results of superior Letter Number Sequencing performance by the group of participants which had Irregular Sleep Time could also have been confounded by a host of possible factors, like the degree of attention, concentration, interest, motivation, the emotional state during testing. Other plausible subjective influences may include participant's occupational demands, intelligence, states of anxiety, stress levels, even genetic influences and comfort with virtual mode of testing. Though some of these, like the participant's affect was asked for before testing, these factors could potentially explain the results obtained. Thus, it could be concluded, based on the findings of the study, that while verbal working memory was affected by Irregular Sleep Time, the direction of this effect differed from what the available research suggests, and this could be attributed to the many situational and subjective factors which could not be controlled for, and thus may have confounded the results.

Moreover, the main effect of Mild Partial Sleep Deprivation, and the interaction effect was found to be insignificant. This was interesting to note too, since past research has shown mild sleep deprivation affecting working memory capacity. (Santisteban et. al., 2018). However, different memory systems are differently susceptible to changes in sleep, which may explain the obtained results.

Limitations and Recommendations

The present study has some limitations. First, a sleep diary record of 2 weeks was used to gauge each participant's duration of sleep and sleep time across nights. While this method of recording sleep subjectively is considered more reliable than a one - time sleep questionnaire, it has its own limitations, in that the objectivity and accuracy of the reported sleep timings is questionable. Since the sleep diaries were constructed on a Google drive sheet which was shared between the participant and the researcher, it could be observed that some participants backtracked and filled their log for the last 1 - 2 days together at times. When gently questioned about the same during the Phase 3 test meeting, they admitted having forgotten to fill in the log, but said that they remember their sleep times well and thus filled it in going back in time. While it is implausible to expect participants' subjective reporting to be absolutely accurate, their memory of their sleep timings could potentially be shaed by their expectations of their sleep schedules. Thus, though the sleep diary method of recording gave a natural medium of noting participant's sleep times, a more controlled medium, like the use of actigraphy would give a better, more objective judgment of participants' sleep hours and durations.

In addition, daytime naps were not counted or adjusted for while calculating the total sleep time of participants. There are contrasting conceptions of daytime napping as recovery sleep due to inadequate night time sleep, or restful sleep that restores and enhances cognitive functioning, as also discussed in the previous sections.While the sleep diary enabled recording participant's daytime napping behavior, it was analyzed only descriptively, and not inferentially, which could be done in future researches for a holistic view of how sleep during night and day times affect working memory, and other cognitive functions.

The present study also did not take into consideration the quality of sleep of participants, which may also affect cognitive functions.

The smaller sample size, and unequal number of participants in each group was yet another limitation. Due to a very high rate of drop out of participants, and difficulties in collecting data because of time required in maintaining the sleep log for 2 weeks, and individually administering the tests to each participant, the number of participants was restricted to 64. A larger sample size and a balanced groups design would have rendered more power to the inferential statistics of ANOVA, thus expanding the reliability of the results, and their generalizability.

Additionally, the sample selected for inclusion was based in Mumbai and its suburbs only, limiting its representativeness. More subtle considerations, like the time of testing the

participants, is recommended for future researchers. In the present research, it differed for participants as per their availability during the day. Cognitive performance in terms of attention abilities, memory acquisition, encoding and retrieval are known to be susceptible to influences from circadian rhythms, thus differing at different times of the day. (Smarr et. al., 2014). This is why a more uniform testing time is recommended to check for these external influences to memory capacity. The remote mode of testing, which was the only plausible option for the current study owing to the pandemic, was a limitation too.

Implications

The results of the present study indicated that Irregular Sleep Time does have a significant impact on verbal working memory functioning. However, the direction of this effect is susceptible to a multitude of influences, which must be closely checked for. Nonetheless, the results show that not having a fairly fixed bed time affects cognitive functioning in subtle ways, which one may not be consciously aware of. This implies that the need for educating and raising awareness among the young adults of these subtle underlying tolls that irregular sleep may have is profound. Since many remain unaware of these cognitive effects, healthcare and psychological service providers could help young adults practice better sleep - wake routines, which would help them function to their optimal cognitive capacities. Moreover, the findings could also hold importance when taking client history in health-care setups - these minor fluctuations in sleep timings may provide crucial information.

Many in this population choose to extend their hours of awakening in order to finish off academic or occupational work, or for some leisure time before ending the day. These sleep time fluctuations could hold potential implications for employers, self-employed individuals or entrepreneurs, given that it is actually affecting daytime working memory functioning of themselves and their employees negatively. Allocating the amount of work appropriately as per working time, or minimizing the practice of extending work hours would thus be beneficial.

The findings of the current study are particularly important for those in occupational roles that require vigilance and optimum working memory functioning, like police personnel, doctors, healthcare personnel, pilots, drivers, data coders or quality control personnel in factories. If or not these subtle influences have a long-term repercussion is a question for more controlled, future research to answer. But for now, in the current pandemic situation, it is safe to say that having a fairly regular sleep schedule will be of benefit in helping one function to the best of their capacities.

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Original Paper

Development of COVID Threat Perception Inventory as a predictor of Psychological Distress

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Introduction: There have been adequate studies on how threat perception predicts psychological distress and one cannot deny the substantial effect of the COVID-19 pandemic on mental health. Developing a tool to assess an individual's vulnerability to psychological hazards with a prior knowledge of their coping abilities in face of COVID threat might give us an upper-hand to take preventive measures in times of threatening situations such as the pandemic. *Purpose:* The study intends to develop a psychometrically sound assessment tool to understand how people perceive COVID-related threats during this pandemic, to assess their attitude towards the current pandemic situation and how they are dealing with it. *Methods:* Two domains, namely monitoring and blunting coping styles were chosen and a total of 44 items were constructed. The tool was administered on a sample of adult 104 individuals. Internal consistency was established. A 39 items were retained. Factor Analysis was run based on another 110 sample and a final of 24 items were retained. Psychological Distress was assessed through Kessler Psychological Distress Scale. *Results:* Cronbach's Alpha for the 2 domains was between 0.77-0.82 indicating good internal consistency. Factor Analysis led towards the 2 factors extraction. Each factor had 12 items with factor loading >0.30. Identified factor solutions were renamed as Harm Avoidance (HA) and Denial of Harm (DH). Stepwise Regression indicated that HA predicts 16.9 per cent of psychological distress whereas age predicts 25.6 percent, therefore denoting the fact that the greater the HA, greater is the psychological distress. *Conclusion:* The presently developed scale has a utility in identifying the vulnerability of individuals towards various psychological hazards during epidemics.

Keywords: threat perception, coping style, monitoring, blunting, psychological distress, pandemic, COVID

Psychological stress is often associated with negative life events and unpredictable changes as it requires adaptation and adjustment. Experiencing too many changes within a short period may create a sense of loss of control. This may lead to various psychological distress (CDC, 2021). The outbreak of COVID and the consequent preventive measures, such as. Lockdowns, curfews, and so on have created an extraordinary crisis in many parts of the world. This public health emergency has made the perception of the spread of the virus acute and is seen as a survival threat. This is also due to the constant flow of information through media. In such a situation it may be important to understand and measure people's perception of threat and their coping patterns so that necessary strategies may be designed to intervene. Threat perception is understood as perceived vulnerability of an individual combined with perceived severity of a stimulus or situation (Zwart et.al, 2009). A strong link has been reported between threat perception and psychological distress (Perez-Fuentes, 2020).

Literatures have primarily focused on various demographic, cognitive (knowledge), emotional, experiential and socio-cultural-political factors as psychological determinants of risk or threat perceptions (e.g. Van der Linden, 2015). This has been reported even during Covid-19 pandemic (Dryhurst, et al., 2020). Some researchers tried to identify the dynamic relationship between covid threat perception and consequent behavior; however, most of them have used a semi-structured interview only. They have also focused on knowledge, emotion and perception of harm (Qin et al. 2021). Most of them either used semi-

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structured questions or existing tools, like Illness Perceptions Questionnaire The Brief version of Illness Perception Questionnaire has been successfully used to predict psychological distress in relation to Covid-19 in Spanish population with its one-dimensional factor (Pérez-Fuentes et al., 2020). However, it may be too simplistic to conceptualize threat perception as a single factor, as there are different aspects of threat perception and it influences the coping behaviour differently.

Every individual has his/her characteristic way of coping with threatening situations. Some take the 'fight' or confrontational approach, whereas some are comfortable with the 'flight' or avoidance approach (Kozlowska et al., 2015). Our ways of coping with the perceived threat may determine our vulnerability or liability towards psychological health hazards.

Among the various coping mechanisms, monitoring (information seeking under threat) and blunting (information avoidance) styles (Miller, 1987) are the ones, which have generated great considerable research interest. According to Miller, in certain situations, increased monitoring of threatening information neither helps to actively control the stressor, nor to increase the predictability of the situation. Rather at that time, it might contribute to maintain the distressing arousal. In such situations, avoidance of threatening information (i.e. blunting) may become a useful approach.

Miller's theory has an important implication for how individuals deal with threatening situations. The theory has received a great deal of attention in terms of its applicability in the medical context (Muris.et.al, 1994) and can also be applicable in detecting vulnerabilities towards psychological health hazards

Factors like cognitive, affective, contextual as well as individual personality traits and personal experiences have been found to play central role in threat perception. One of the primary instances is that of the recent pandemic of COVID-19, which is considered as a significant threat to mankind. The adjustment, changes and battles the people have endured in terms of health, loss, employment, daily and social living (Haleem et.al, 2020) have made them prey to various psychological hazards. Therefore, finding a way to determine an individual's liability towards psychological hazard or the way they cope in response to threat might give us an upper-hand to take preventive measures beforehand in times of stressful and threatening situations such as the pandemic.

Purpose of the Study

The following study intended to develop an assessment tool to understand how people perceive COVID-related threats during this pandemic, to assess their attitude towards the current pandemic situation and how they are dealing with it. In addition it also focused on if there were similarities or differences in threat perception by gender or other socio-demographic variables. The tool therefore will be helpful in the future to identify individuals who might be at risk for psychological difficulties and other health hazards, so that appropriate preventive measures can be taken.

Method

The present study focuses on exploration of attitudes and coping-related pandemic threat perception. The research design utilized in this study includes expert opinion and two phases quantitative survey.

Participants

Both male, female and other gender with ages ranging from 18-60 years (N=214 at 2 phases), from various socio-economic backgrounds, occupational fields as well as educational qualifications, with or without a history of COVID-19 participated in the study.

Measures

Data was collected after obtaining written consent from the participants and abiding by the ethical principal for research. The participants were assured confidentiality and anonymity as well as voluntary participation was promoted. Information Schedule was given for recording basic information of the participants participating. The original scale of 44 items constructed was administered along with the Kessler Psychological Distress Scale (K10), which is a global measure of distress (Kessler et.al, 2003).

Procedure

Phase I: The first objective was to develop and identify the dimensionality of the construct and construction of the items. Since the main aim of the scale was to identify people's vulnerability towards psychological hazards during the pandemic, 2 main domains chosen for the present scenario, were, monitoring and blunting. The second step was response scale specification, where the construction of items mainly included close ended statements. The items were prepared in English keeping in view of the language lucidity as well as content relevancy. This was done by examining the current research in the field. The responses were binary (Yes/No type). The items were constructed on the basis of the subdomains like Information monitoring, Health monitoring, Day to Day Life monitoring, and Social monitoring. Content Validity was assessed by seeking expert opinion from 4 clinical psychologists based on three dimensions of response: adequacy, relevancy, and appropriateness. Following this, item modifications were made, therefore generated a total of 44 items.

Phase II: It involved administration of items on 200 samples through convenient sampling via Google form document (single form submission). The participants were asked to participate in this research by signing a consent form, filling up an information schedule and completing the tool and then submitting it to the researcher. Sixty-two participants did not return the form and 34 forms had been found to be incomplete or omitted items, hence not considered for further analysis. Finally, 104 data could be incorporated for further analysis. The data was subjected to Item Analysis through computation of Item total correlation and Cronbach's alpha to assess internal consistency reliability. The criterion for coefficient alpha was 0.70 (Cortina, 1993; Cronbach, 1951, 1993) the coefficient alpha for a new instrument should be at least 0.70. The estimate of internal consistency with this sample exceeded this recommendation with item-total correlation > 0.70. The refined psychometric tool comprised a total of 39 items. The test with the retained items was administered to another 200 adult samples through a Google form following ethical process. Based on the return data, only 110 data could be considered for further analysis.

Phase III: This phase was comprised of determining the dimensionality of the scale. The data were subjected to principal component analysis with varimax rotation. Two factors were chosen based on the previous literature and, the items with a higher factor loading (>.30) were taken into consideration. Those with lower factor loading that is ambiguous items were eliminated. A total of 24 items were retained, among which 12 items were categorized in one domain and 12 were categorized into the other.

Phase IV: This was the last phase, which involved administering the Psychological Distress Scale (K10) to 110 participants using a Google form. This was used for factor analysis in Phase II for assessing predictive validity of the newly developed tool.

Results

The data were subjected to appropriate statistical analysis for the present study using the software of Statistical Package of Social Sciences (SPSS) Windows Version 20.

Table 1.1 *Internal Consistency of the initial item pools related to Blunting (N=21)*

Blunting (BL) Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
BL1	.285	.818
BL4	.279	.817
BL5	.297	.817
BL8	.387	.812
BL9	.418	.811
BL10	.502	.807
BL12	.414	.811
BL13	.334	.816
BL14	.439	.810
BL17	.304	.816
BL18	.527	.808
BL21	.473	.808
BL31	.518	.806
BL32	.403	.812
BL36	.341	.815
BL37	.585	.802
BL40	.252	.820
BL41	.266	.819
BL42	.420	.811
BL43	.234	.819
BL44	.398	.812

Note: Cronbach's Alpha of Internal Consistency .820

Table 1.2 *Internal Consistency of the initial item pools related to Monitoring (N=18)*

Monitoring (MN) Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
MN2	.498	.753
MN3	.288	.769
MN6	.360	.764
MN15	.322	.767
MN20	.292	.769
MN22	.218	.776
MN23	.414	.760
MN24	.486	.755
MN25	.465	.756
MN26	.425	.759
MN27	.353	.764
MN28	.263	.771
MN29	.288	.770
MN30	.257	.771
MN33	.403	.762
MN34	.275	.769
MN35	.211	.775
MN39	.530	.751

Note: Cronbach Alpha of Internal Consistency .775

Table 2. *Two factor Extraction of the items of the tool*

Items	Components	
	1	2
DH37	.754	
DH18	.736	
DH31	.712	
DH 10	.668	
DH 12	.572	
DH 32	.551	
DH 21	.548	
DH 14	.539	
DH 42	.516	
DH 17	.479	
DH 44	.449	
DH 9	.365	
HA25		.631
HA 39		.618
HA 24		.597
HA 2		.588
HA 23		.535
HA 15		.529
HA 33		.523
HA 6		.488
MN27		.466
HA 29		.418
HA 3		.390
HA 20		.377

Table 3. *Regression Analysis considering psychological distress as Dependent factor*

Model	R	R Square
1 HA Total	.411*	.169
2 Age	.506*	.256

* $p < .001$

Table 3.1 *Exclude variable from the Regression Model*

Model	t	Sig.	Partial Correlation
DH Total	- .368	.714	-.037

Table 1.1 shows the Item total correlation of the items denoting Blunting coping style. Out of 22 items, 21 items were retained with an item total correlation >.20. The overall internal consistency reliability as denoted by the Cronbach's Alpha is found to be 0.82

Most demographic factors including gender did not show any significant differences with respect to perception of threat, however, higher age groups utilized more avoidance coping due to anticipary harm (HA).

From Table 3, it is observed that in the forward stepwise regression harm avoidance (HA) and age were identified as possible predictors of psychological distress. It was found that HA is able to positively predict 16.9% of variation in psychological distress (K total), whereas age is able to positively predict 25.6% of variation in psychological distress. This indicates, higher the age and harm avoidance coping, more is the psychological distress. Table 3.1 shows the variables that were excluded from the regression model. Denial of harm (DH) factor did not predict variation in psychological distress due to low coefficient score (p=0.714) significantly.

Other demographic factors including gender cound not be identified as possible predictor of psychological distress and they did not show any significant differences with respect to perception of threat.

Discussion

The result showed that during Item Analysis, 5 items were eliminated with item-total correlation <.20 (and Cronbach's alpha of <.70 (Kyriazos et al, 2018). The overall internal consistency as denoted by the Cronbach's alpha for each of the 2 domains was >.70 indicating adequate to good internal consistency as observed from the Table 1.1 & 1.2 . In the case of items denoting monitoring coping style, Cronbach's Alpha was found to be >.80 pointing towards a good internal consistency reliability. A total of 39 items (21 items for the domain of monitoring and 18 items for the domain of blunting) were retained, therefore deeming the test to be reliable and decreasing the effect of measurement error (Nunnally & Bernstein 1994).

Factor analysis which is an integral segment of scale development, determines the dimensionality of the scale, i.e, the number and nature of the variables reflected in its items (Furr, 2011). Items with factor loading >.30 and eigen-value of 1.0 were retained. Kaiser (1958) believed that eigen-values less than 1.0 reflect potentially unstable factors and this criterion was taken into account. A total of 24 items were retained among which 12 items were categorized in the domain of avoidance coping skill (harm avoidance) and 12 were categorised to that of denial (denial of harm) (Table 2).

Table 4: *The final items retained in the scale*

Item No.	Statement
37	The COVID scenario is already exaggerated; we should focus less on that.
18	I keep on living the way I lived before and no pandemic can stop that.
31	The situation is already stretched unnecessarily because of all those social restrictions.
10	I think the media has been over-reporting and there is nothing to worry.
12	I think there is no harm in using a public gym.
32	I prefer visiting the market regularly for fresh vegetables and groceries.
21	It is like any other flu; it gets cured anyway.
14	People should meet more often than they are doing it currently.
42	One needs to wear a mask only if he is sick.
44	I would rather prefer to go to my workplace as before even during the pandemic.
17	I am anyway healthy, I can't catch COVID.
9	I believe that the more one seeks information regarding the pandemic, the greater is the panic.
25	People should not attend small gatherings or travel even if the administration permits.
39	Whenever I hear my family member talking over the phone, I dread getting bad news.
24	I avoid walking and exercising in the terrace, lawn or front yard to minimize the risk of infection.
2	Whenever I hear about someone affected by COVID, I dread that my close ones or I may be the next.
23	I tend to take precautionary medicines these days in case of even the slightest physical ailment.
15	It makes me immensely anxious the days I need to go out for work
33	No one should allow any family members to visit their home.
6	People should not come close to a person who has recently recovered from COVID to ensure their safety.
27	I do not allow any house-help to come inside my house.
29	I tend to order everything online (fish, vegetables, medicines) during this pandemic.
3	Whenever I talk to my friends or family members, more than 50% of the conversation revolves around the current pandemic.
20	It is better to keep the windows closed if there is any COVID positive person in the neighborhood.

To find out whether HA or DH and other socio-demographics can explain or predict psychological distress, the data was then subjected to Regression, where it was observed that HA can predict 16.9% of psychological distress, whereas the socio-demographic of Age can predict 25.6% psychological distress among other variables, therefore denoting the fact that greater the HA, greater is the psychological distress. HA is a measure of cognitive bias related to overestimation of threat and has been observed to be evident in some clinical conditions like generalized anxiety or obsessive compulsive disorder (Riesel et al., 2021). HA as personality trait has been identified as predictor of lockdown compliance (Lo Presti et al., 2022). Again, it has been observed that there is a continuing controversy about how age affects psychological distress and in a study conducted by Jorm et al. (2005), psychological distress generally declined across the age range 20-64 years. In another study conducted by Islam (2019), it was observed that psychological distress is significantly higher in older adults than in younger adults. Hence, it can be said that age does a play a role in psychological distress, which is at par with the present finding.

Denial of harm is a new construct that has been identified by this research and may be associated with denial of knowledge regarding the real threat. It is understandable that people higher on DH may not experience psychological distress as has been reported in the current study (Table 3.1.), however, it is not clear if DH can increases vulnerability for noncompliance to pandemic norms and thus at higher risk for health hazards.

The study is having specific limitations, like, small sample size for a factor analytic study & lack of proper randomization in the sample. Moreover, the test-retest reliability and assessment of concurrent validity could not be established in this initial version of the test. In the future, we plan to come up with specific norms to identify the vulnerable groups for psychological distress.

Conclusion

This study has come up with a simple and brief self-report inventory that can be used to identify known coping techniques about threat, like, monitoring and blunting, relevant in this pandemic era. Moreover, this inventory can be helpful to identify people who may be vulnerable to suffering emotionally during such crisis situations.

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Original Paper

Social Support and Loneliness among Adolescents during COVID-19 Pandemic

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Adolescents face many challenges as they pass through the stage of adolescence. They encounter many crises in life and face many mental issues such as anxiety, depression, and loneliness. The purpose of the study was to examine social support and loneliness among adolescents during the COVID-19 pandemic. The tools used were UCLA Loneliness Scale by Russell et al. (1978), and the Perceived Social Support Multidimensional Scale by Zimet et al. (1988). The sample consisted of 348 adolescents in the age group of 17-20 from different colleges. Findings revealed that there exists a significant negative correlation (-375; $p>0.01$) between social support and loneliness, no significant gender difference was found, also no strong association was found between social support and the mother's working status and social support and the number of siblings of adolescents.

Keywords: social support, loneliness, adolescents, COVID-19, pandemic

Adolescence is a stage characterized by a number of mental health issues. Loneliness is one of the psychological problems faced by the adolescents today. The pandemic has caused unnecessary stress to adolescents, and to add to their existing problems, adolescents cannot engage themselves in face-to-face conversation due to social distancing. This social distancing might have a disproportionate effect on the adolescents' health since peer interaction is a crucial aspect of their development (Orben, 2020).

The outbreak of the COVID-19 pandemic has caused panic among people and the situation has been stressful due to social isolation, thus it is important to intensify intervention to fight loneliness among those who are highly vulnerable to anxiety (Brooks, 2020). Loneliness is a negative feeling which is the outcome of a lack of social interactions. It is a psychological feeling where an individual feels there is a vacuum created in them due to lack of social network. Leal Filho et al (2021) reported that due to social distancing a number of college students suffered from lack of social interaction and communication.

As physical distancing rules have resulted in a decline of a person's social contact, loneliness was associated with worse physical and mental health (Fruehwirth et al., 2021, Janssen et al., 2020, Jiao et al., 2020). Prolonged loneliness can have a profound negative impact on health and well-being. It is very important to find ways and means to address loneliness among adolescents who are socially isolated (Liu et al., 2020). Tan et al (2016) reported a negative correlation between loneliness and social support and suggested that loneliness can be reduced by enhancing social support. Although women enjoyed a large social network yet they were less satisfied compared to men and had higher scores on the loneliness scale (Kim, 2001; Suri et al., 2019).

Mental health professionals were caught up in a grave situation since adolescents were facing too many mental issues during the pandemic. Many children expressed low levels of affect since they were unable to play outdoor games, not meet their friends as well as could not attend school physically (Lee, 2020; Liu, 2020; Zhai & Du, 2020). COVID-19 has affected globally and the lockdown which was followed by isolation and confinement of adolescents to their homes has threatened the mental health of adolescents (Fegert et al., 2020).

Social support can play an active role in promoting well-being; it can act as a coping mechanism as well as a buffer in the life of an individual in moments of crisis. It protects individuals against all adversities of life especially social support from family, peers and significant others. The risk of depression was reduced due to the high level of social support (Grey et al., 2020) and the perception of more social support can make one feel cared for, understood and valued by others, which can help overcome loneliness (Casale & Flett, 2020).

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For adolescents who are highly reliant on social contact with peers, a prolonged period of social isolation can have detrimental effects on their mental health (Cauberghe, 2021).

Lee and Goldstein (2015) reported that support from friends acted as a buffer in fighting loneliness. Studies also confirmed that men experienced higher levels of loneliness when they had less support from their family, surprisingly women who had more support from their family experienced more loneliness (Eshbaugh, 2008). Research studies also reported that females had higher stress due to a lack of social support (Tse & Kwan, 2021). Social support from friends and classmates helped adolescents to make necessary adaptations to disease; however, lack of social support predicted more negative mental health problems (Tse & Kwan, 2021).

The lockdown and social distancing changed the lifestyles of almost everyone as people had to remain indoors for days, weeks and months. This sudden change made people feel lonely and they developed a fear of the pandemic, not knowing what would be the outcome. Studies showed that young people experienced greater loneliness compared to the older adults resulting in greater use of social media and seeking low social support (Lisita et al., 2020; Lee et al., 2020). The perceived social support decreased when there was an increase in loneliness among college students in China (Xin & Xin, 2015). Keeping in view of the above, the present study was conducted to examine the social support and loneliness among adolescents during the COVID-19 pandemic.

Method

The pandemic brought active life to a halt where schools and colleges were shut down and adolescents were forced to remain behind closed doors. Moreover, they could not meet their friends face-to-face, hence in such situation the study was conducted to find out whether social support from family, friends and significant others will help to reduce loneliness during the COVID-19 pandemic.

Hypotheses

H_1 There will be negative correlation between social support and loneliness among adolescents

H_2 Male and female adolescents will differ significantly among themselves with regard to social support

H_3 There will be no significant association between mother's working status and social support among adolescents

H_4 There will be no significant association between the number of siblings and social support among adolescents

Rationale

Man is a social being who needs other human persons for their social interactions. The pandemic brought a halt to all social interactions due to social distancing and lockdown. Adolescents who spent a fair amount of time outside their homes were suddenly struck in their homes. They were not allowed to move out of their homes. They started complaining because they could not meet their peers. The study was conducted to understand the problem of adolescents and help them to overcome their loneliness and increase their social support. The implications of the studies included conducting webinars and advising adolescents to engage in online counselling.

Participants

The sample comprised 348 participants which included male and female adolescents. The adolescents, who ranged in the age group of 17-20, were pursuing their studies in various colleges of Goa. A convenient sampling method was used to collect the sample. The participants were provided the link individually and asked to fill in the demographic data as well as to answer the tests. The consent was taken and the participants were informed that the data will be used purely for research and complete confidentiality would be maintained.

Measures

UCLA Loneliness Scale (Russell et al. 1978)

*I*t consisted of a 20 item scale that measured the feelings of loneliness and social isolation. It has 4 options namely ‘often, sometimes, rarely and never’ with a rating scale from 3-0. It is highly reliable in terms of internal consistency and the coefficient is ranging from .89 to .94 and the test-retest reliability.73. Convergent validity was indicated by significant correlation. The minimum score is 20 and the maximum score is

80. A higher score indicates a higher level of loneliness.

Multidimensional Scale of Perceived Social Support (Zimet et al., 1988)

The scale has three subscales, namely Significant Other Subscale, (items 1, 2, 5, & 10), Family Subscale (items 3, 4, 8, & 11) and Friends Subscale (items 6, 7, 9, & 12). It is a Likert Scale that has seven alternatives and is rated from 1-7 Very Strongly Disagree (1), Strongly Disagree (2), Mildly Disagree (3), Neutral (4), Mildly Agree (5), Strongly Agree (6) and Very Strongly Agree (7). The scale has good to excellent internal consistency and test-retest reliability with a Cronbach's alpha of 0.81–0.98. The minimum score is 12 and the maximum score is 84. A higher score indicates higher social support. The cut-offs are derived by dividing the maximum score by 3 to get low (128), moderate (29-56) and high (57-84) social support.

Procedure

The administration of tests and other demographic data was collected using Google Form due to the pandemic. Participants who showed high level of loneliness were debriefed and were advised to meet their college counsellor.

Data analysis and Statistics Used

The raw data was collected, checked and then SPSS was used to compute the correlation, t-test and chi-square. The correlation was used to study the association between variables, t-test was used to find out the significant difference and chi-square was used to study demographic variables

Results

Table 1 *Relationship between social support and loneliness among adolescents*

Variables	Correlation
Social Support Loneliness	-.375**

** p<0.01)

Observations from Table 1 revealed that there exists a negative correlation (r= -.375**) between social support and loneliness which was highly significant at 0.01, indicating an increase in perceived social support and showed a decrease in loneliness.

Table 2 *Mean, SD and 't' value of social support among male and female participants*

Variable	Gender	Mean	Standard Deviation	Standard Error Mean	Mean Difference	't' value
Social Support	Male	2.31	.64	.69	.002	.020
	Female	2.30	.70	.04		

Table 2 reported the mean and SD of male and female participants with regard to social support received from parents, friends and significant others. The obtained mean was 2.31 and 2.30, while the standard deviation was .64 and .70 for male and female participants respectively. The mean difference was .022 and the calculated t-value was .020 which was less than the p-value (1.96) hence it was not significant at 0.05 level of significance (p<0.05).

Table 3 indicated the association between social support and the status of working mothers. It was observed that in the low social support category, adolescents had 76 mothers who were working and 153 mothers who were non-working, with 61.8% and 68.6% for working and non-working mothers respectively. Adolescents of the working mothers obtained 32.9% while that of the non-working mothers had 66.2% received low social support

In the case of moderate social support, there were 41 who were working mothers and 53 were non-working mothers, obtaining 33.3% and 23.8% for working and non-working mothers respectively. Adolescents of the working and non-working mothers obtained 43.6% and 56.4% respectively received moderate social support. In the final category of high social support, there were 6 working mothers and 17 non-working mothers thereby obtaining 4.9% and 7.6% for

Table 3 *Working status of mothers: Chi square Test*

Case Processing Summary

	Cases					
	Valid		Missing		Total	
Mother's working status * SST Code	N	Percent	N	Percent	N	Percent
	348	93.3%	25	6.7%	373	100.0%

Mother's working status * SST Code cross tabulation

			SST Code			Total
			Low	Moderate	High	
Mother's working status	Working	Count	76	41	6	123
		Expected Count	81.6	33.2	8.1	123.0
		% within Mother's working status	61.8%	33.3%	4.9%	100.0%
		% within SST Code	32.9%	43.6%	26.1%	35.3%
	Non-working	Count	153	53	17	223
		Expected Count	148.0	60.2	14.7	223.0
		% within Mother's working status	68.6%	23.8%	7.6%	100.0%
		% within SST Code	66.2%	56.4%	73.9%	64.1%
	3	Count	2	0	0	2
		Expected Count	1.3	.5	.1	2.0
		% within Mother's working status	100.0%	0.0%	0.0%	100.0%
		% within SST Code	0.9%	0.0%	0.0%	0.6%
Total		Count	231	94	23	348
		Expected Count	231.0	94.0	23.0	348.0
		% within Mother's working status	66.4%	27.0%	6.6%	100.0%
		% within SST Code	100.0%	100.0%	100.0%	100.0%

'3' stands for death of a mother (under other option), it was not considered for discussion

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.164[a]	4	.271
Likelihood Ratio	5.748	4	.219
Linear-by-Linear Association	.603	1	.438
N of Valid Cases	348		

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is .13.

working and non-working mothers respectively. Adolescents of the working mothers obtained 26.1% while that of the non-working mothers had 73.9% and had high social support. The chi-square value was 5.164 (df =4) was not significant at 0.05 level of significance ($p<0.05$).

Table 4. *Case Processing Summary Chi square Test*

No. of siblings * SST Code	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
	348	93.3%	25	6.7%	373	100.0%

Table 4 revealed the association between social support and the number of siblings. In the low social support category, there were 33 (76.7%) adolescents as only child with 14.3% had low social support. In the moderate category, there were 7 (16.3%), adolescents as an only child with 7.4% had moderate social support and finally, in the high category there were 3 (7.0%) adolescents as an only child with 13% had high social support. Adolescents in the category 1-2, there were 198 (64.9%) with 85.7% had low social support, further, adolescents in the category of 1-2, were 87(28.5%) with 92.6% enjoyed moderate social support and finally, 20 (6.6%) adolescents in the 1-2 category with 87% had high social support. The chi-square value was 2.896 (df =2) was not significant at 0.05 level of significance ($p< 0.05$).

Discussion

In the current study, a negative correlation was found between perceived social support and loneliness (r = -.375**) which was significant at 0.01 level of significance thereby indicating an increase in perceived social support showed a decrease in loneliness. A negative correlation between social support and loneliness was expected because the parents became very protective of their adolescents on account of the COVID-19 pandemic. Since the adolescents received social support, especially from their parents and significant others, they could reduce or overcome their loneliness. Earlier studies confirmed the results of the current study which showed that social support acted as a buffer to fight against loneliness, especially when perceived social support came from parents, friends and significant others (Ren & Ji, 2019; Tan et al. 2016).

No gender difference was found with regard to social support in the present study, preferably because parents were equally protective of their wards during the COVID-19 pandemic. Although adolescent males spend more time outside their homes than their counterparts, it was assumed that male adolescents would experience more loneliness and less social support than female adolescents. However, parental support and support from others made them feel comfortable in their own homes. Previous studies showed a mixed outcome with regard to gender differences where men surprisingly experienced higher levels of loneliness than women (Jeong et al., 2019; Eshbaugh, 2008) and women had higher levels of loneliness than men (Suri et al. 2019; Kim, 2001).

The present study revealed that no significant association was observed between birth order and social support as the chi-square value was not significant at 0.05 level of significance (3.972; $p<0.05$). During the pandemic, adolescents were behind closed doors as they were not allowed to attend school, they were well protected, and found social support from each other, even when the mothers were at work. Adolescents found social support from their elders as well as younger siblings as a result of which they did not experience any loneliness. It is often during moments of crisis when family members support each other; consequently, there is a strong bonding between family members. Tang and Li (2021) reported that although little support came from governments and their employers, families assisted each other and worked as one unit thereby maximizing resources and reducing risks.

No significant association was found between social support and the number of siblings as the chi-square value was not significant (2.896, $p<0.05$). Whether it was an only child or more than one child, during a pandemic, every child is precious, thus, every child received equal support from their parents. Adolescents who were not allowed to move out of their homes had no stress level as they were protected by their parents. Studies showed that there was a relatively healthy relationship between parents and adolescents and

they dealt fairly with the circumstances (Janssen et al. 2021). Parents who kept their adolescents away from the negative news regarding COVID-19 were mentally relaxed. Previous studies have confirmed that adolescents who were exposed to media news regarding the pandemic did show a high level of stress and had many mental issues (Ma et al. 2020). In order to prevent loneliness among individuals, social support is very crucial as it can act as a buffer in promoting human well-being (Saltzman et al. 2020).

The present study revealed that perceived social support decreased the level of loneliness. No significant difference was observed between gender and social support in the study. No significant association was found between social support and the status of working mothers. The study further revealed that there was no significant association between social support and the number of siblings. The study suggests that parents and teachers maintain constant contact with adolescents so that they do not succumb to loneliness. It is recommended that parents need to supervise and monitor the mental state of adolescents and spend quality time with their wards. It is also required that parents play a proactive role in protecting adolescents from loneliness by providing alternatives so that they remain occupied with other activities.

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Original Research Article

Challenges to the Clinical Psychologists During COVID-19 and Beyond

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OVID 19 has brought about major changes in the world, which is still still troubled by this pandemic. Containment of the virus has been the major focus of the health services. However, the associated psychological factors cannot be ignored. The psychological effects of the pandemic keepaffecting the psychological well being of people and with that the role and responsibilities of a clinical psychologist increases significantly. In the next 5-10 years, it is likely that there will be a new breed of psychological issues as a consequence of this pandemic. Some of the major ones being, the psychological sequel of maintaining social isolation, economic crisis, a surge of the fear of death, fear of unknown, grief, family issues, increased marital discord and domestic violence. The intensity and severity of the existing mental health problems of those who are vulnerable to develop a psychiatric disorder are also at risk. This has posed increased challenges for the clinical psychologists for dealing with it in the forthcoming years. The present paper examines these new challenges and possible responses.

Keywords: pandemic, COVID19, clinical psychologists, social isolation, grief

The world is still troubled by the pandemic caused by the novel coronavirus, and currently by omicron. COVID 19 has reached the state of being a pandemic causing great change in the world and it became a threat to the people (Banerjee, 2020) and now it is omicron. This pandemic situation has brought major transformation in the lifestyle compromisingtheirmental health. Under this circumstance, role of the clinical psychologists has become more prominent.

In order to further exert inertia to the already stressed up environment, there are a humongous number of fake news circulating around especially in social media. The misinformation that is prevailing regarding the COVID 19 in various media platforms has been termed as 'misinfodemics' (Gyenes & Mina, 2018). This obviously fuels up the already existing anxiety in people.

During a pandemic the major focus is on containment of the virus and prevent it from causing more harm, However, its psychological effects will continue to have long-term impact in the years to come, even after subsiding of the pandemic.The challenges for a clinical psychologist have become significantly higher than ever before.

While we are aware that the psychological effects are permeating the population, the consequence of it is still unknown. There have been several pandemics before but the present one was beyond comparison (Leiberman & Olfson, 2020)

Even though it has been observed that the rate of suspected *visa vis* confirmed cases of COVID-19 is comparatively low and most of the cases have been found to be either asymptomatic or having mild symptoms, or having a low rate of mortality (Wang, 2020) the psychiatric repercussion has been found to be significantly high, almost paralyzing the available healthcare facilities.In orderto safeguard its adverse impact on mental health, conducting awareness programs on online platforms, counseling and psychotherapy through various helpline services can prove to be effective (Xiang & Cheung, 2020).

Major psychological changes

With COVID 19 becoming a worldwide concern, much emphasis is being placed on the psychological well being of individuals. The increase in the cases of psychological disorderslike that of increase in substance use, depression, anxiety, PTSD and suicide rates have been found to follow natural disasters of any kind (Beaglehole et al, 2018 & Chaves et al, 2018).

In the next 5-10 years, it is likely that there will be a new breed of psychological issues as a consequence of this pandemic. Some of the major ones being, the psychological sequelae of maintaining social isolation, a surge of the fear of death (Kumar & Nayar, 2020), the fear of

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unknown, grief, family issues, increased marital discord, domestic violence and so on.Many of these problems could betheconsequences of the economic crisis.

Dealing with prominent mental health issues

Previous pandemics suggest that viral outbreaks are usually associated with definite fear in the community due to uncertainty pertaining this condition. The risk of being infected with the virus and consequent death are almost certain (Person et al, 2004). In China, life satisfaction has also been found to have decreasedwith the spread of the COVID 19 (Li et al, 2020). While undergoing quarantine, frustration, post-traumatic stress symptoms, fear of having the illness, boredom, financial anxiety and stigma are high (Brooks et al, 2020). If ignored, this may lead to mass distress.

When the pandemic was in its most active phase, mental health was not considered as a priority, which eventually resulted in a hike of the severity of the existing symptoms as well as a delayed diagnosis.Behavioural responses that are maladaptive, like having neurotic breakdowns or becoming extremely vigilant during any infectious disease outbreaks, can result in the exaggeration or may induce compulsive behavior in the individual (Brand, 2013). This may include obsessive monitoring of media, being preoccupied with social media, repeated washing of hands or any other repetitive behaviors as well as the presence of brief psychotic episodes (Zulkifli, 2020).The related impact on the psychosocial and economic aspects of the community is also unfathomable (Shigemura et al, 2020 & Reardon, 2015). Previous experiences with pandemic have shown that the kind of impact that it creates on the mental health of the people are usually long lasting. This has increased the challenges of mental health professionals in the years to come.

Challenges for clinical psychologists

The rise in the number of cases for psychiatric disorders like anxiety disorders including panic attacks, obsessive compulsive disorder, depression is likely to be on the rise. The individuals with preexisting psychiatric disorders are also likely to see a rise in the severity of their symptoms. For instance, those already suffering from OCD when exposed to repeated media sources suggesting hygienic measures are likely to experience an exacerbation in their symptoms.Itelevatestheirpsychological distress astheyget into avicious cycle of symptom maintenance because of their low ability of inhibitory control.Consequently, it results an increase in the frequency of thoughts related to contamination and performing the ritualistic behaviour (Banerjee, 2020). Adequate training of primary health care workers is required, so that they can identify individuals having OCD like symptoms and make referrals. With time and effort, the world may soon get rid of the pandemic and notorious virus but what would keep haunting is the unimaginable rate of spike in mental health disorders. (Banerjee, 2020).

The exacerbation in the symptom presentation of OCD in individuals have been found to be a natural consequence of previously encountered outbreaks like the Severe Acute Respiratory Syndrome (SARS), Middle East respiratory syndrome (MERS) prominently within 6-12 months time after the end of the pandemics ended which usually go undetected during the initial phases of outbreaks (Mark et al, 2009).

Clinical psychologists using psychotherapy particularly cognitive behavior therapy should be specially cautiouswhile identifying cognitive distortions as well as challenging the negative automatic thoughts and while dealing with disorders like OCD, panic disorder or death anxiety in the context of the pandemic, as many of them could be quite common among people. Another major challenge would be to deal with the exacerbation in symptoms of individuals already undergoing psychotherapy as well as encountering a deterioration in the progress of ongoing therapy. Online forms of psychotherapy could be a probable solution for accessing the clinical psychologists, this may reducethetheir constraints andservicegapsto some extent.

Social isolation and its offshoots

With the onset of the pandemic, people have started practicing social distancing, isolation and quarantine, restraining themselves fromnaturalsocialinteractionengaging themselves in anything that could keep them occupied or distracted from these social realities (Banerjee, 2020). Due to limited forms of entertainment, the virtual world has become a major attraction, but

overengagement has lead to adverse consequence, such as internet addiction.

In order to reduce stress and anxiety and to uplifttheir mood, individuals have engaged themselves in innumerable unhealthybehaviours, such as binge watching, excessive social media usage, or watching pornography. Athough these behaviours may have stresses reducing properties(Blasi et al, 2019, Jacobs, 1986 & Khantzian, 2013), have serious psychological consequences, hence throws serious challenges to the clinical psychologist to deal with them. It requires individually-tailoredbehavioralintervention programmes in conjunction with other forms of psychotherapy. Designing such interventions are indeed challenging, as it needs support of significants others too who are often affected by pandemic stress.

Grief and bereavement

With the rising death rate, dealing with grief reaction and its underpinning is also a great challenge for a clinical psychologist. Anticipatory grief is also an important aspect which needs to be dealt with especially with individuals whose loved ones are fighting COVID 19 (Zhai & Du, 2020). In current times,withcontinuingsocial distancing and social isolation, grieving over recent losses of their closed ones, especially those victim of COVID-19 have become more difficult to cope with. In the next few years to come, the clinical psychologists are perhaps likely to see a considerable number of clients who would need help to get through their bereavement phases.

Online psychotherapy and its challenges

The greatest shift in the the role of a clinical psychologist in the next few years to come is the use of the digital media for providing psychological consultation and psychotherapy. Tele-psychiatry is the trend of the hour though its accessibility as well as comfortable usage is mostly limited to certain regions and certain classes of the society (Banerjee, 2020). There are clients as well as therapists who are not comfortable with this online modality. They have their own hesitations and resistances. However, in conditions like that of the current pandemic, wherein social distancing is the norm, providing online psychotherapy is need of the hour.

Dealing with the health care professionals

The current health care system, in addition to helping those who contracts the virus has not offered muchto the health care professionals, who definitely have direct regular exposure to the virus and consequent soaring amount of stress (Kang et al, 2019). With time, some protocols have been developed to help clinicians combating this crisis in isolation units and hospitals. However, they do not have adequate training to provide mental health aid or required specialized care (Xiang et al,2020). These frontline workers are themselves are at risk of mental health problems. Thus offering mental heath services to them isalso an area ofpriority.

Interpersonal Issues

Impact onFamilies

The country is moving forward from lockdown to normality.Still families are likely to face uncertainties due to loss of job of the bread winners.They still have more issues in reorganising their family systems. In addition to their traditional responsibilities at home, they have to find new jobs in the job market, where opportunities are still scarce, (Prime et. al, 2020). This frustration has been affecting family functioningandhas been the source of marital conflicts. Clinical psychologistsshould accept these new challages effectivelyby conducting family-oriented intervention programmes.

Impact on couples

The couples who are already experiencing some stress in their personal lives may also fall prey to the viral infection, may have pre-existing economic setback, may have lost a close relative or becomeunemployed. Theyexperience pandemic as a form an external stress.Under such circumstances, arguments, blaming or criticizing each other is a common phenomenon. These couples have difficulty in maintaining good listening skills and perspective taking skills leading to dwindling satisfaction with their spouse and the marital relationship. (Bodenmann et al, 2007, 2010, Neff &Karney, 2004 & Bodenmann et al, 2015). Studies also show a relationship between economic condition and marital harmony. The divorce rate was found to be higher for couples with low income as compared to those with middle or higher levels of income (Neff &Karney, 2017). Thus, in the

next few years to come, the number of clients for marital therapy and family therapy are likely to rise,demanding specialized intervention by the clinical psychologists.

Violence in families

Domestic violence during COVID-19 is now being referred to as a 'shadow pandemic'. The major reasons that are mostly found include, being unable to deal with different psychological stressors, economic setbacks, stress due toisolation,increasinguse of addictive substance and inability to avail ones' major support systems, due to the restrictions in travel and strict instructions of quarantine issued by the Government (Gulati & Kelly, 2020).The psychological effects of domestic violence are gruesome and can even lead to a wide range of psychiatric disorders. Clinical psychologists need to prepare themselves to handle such cases and provide suitable form of therapeutic servicessuch as marital therapy, family therapy or individual therapy.

Social aspects and the associated challenges

Stigmatization

As COVID-19 took the shape of a global pandemic, families of individuals being tested positive have to experience stigma. The stigmatization and marginalization of such individuals and those being quarantined alsoposedifficulty in management (Dubey et al, 2020).In order to encounter such marginalization and stigmatization from the society,clinical psychologists should conduct awareness programs in the community, so that more and more people are aware of their serious consequences.Theyshouldalsoprovide individual psychotherapy to those who are victims of such stigma.Coping skills and problem solving training plays significant role in this endeavour.

Dealing with the vulnerable population

The downtrodden and disadvantaged sections of the society such as underprivileged communities, and migrant workers encounter more mental health problemsthan the general population and this may continue in the next few years. Some of their psychological health would be affected not only due to the direct impact of the COVID 19 but also due to their adverse occupational state (Choudhuri, 2020). Screening such individuals and providing them the required support would bring equality in extension of mental health services. People start developing a sense of confidence in dealing with them by exploring the issues systematically and solving them systematically. Developing strategies for these,would be a huge task for the clinical psychologists.

Economic impact

Restrictions due tothe pandemic has also brought about a series of issues that has hit the economy of many countries. A similar picture may become prominent as an aftermath of the pandemic.This inducesas well asexacerbaesthe existing psychological issues in individuals with poor resilience. Economic crises have been found to be directly linked with an increase in the rate of depression (Tapia Granados et al, 2018 & Tapia Granados & Diez Roux, 2009). Increment of psychological distress is evident among those who are facing layoffs in their jobs or experiencing salary cuts. Unemployment and economic distress are often associated with increased rate of depression and suicide especially among the youth (Goldman-Mellor et al 2010 & Oyesanya et al. 2015). Thus, in the next few years to come, clinical psychologists have to gear up themselves to handlesuch sensitive psychological issues and help those in dire need of mental health services.

Conclusion

A pandemic does not only mess up with the physical health of the individuals but also their psychological well being. Although the recent pandemic omicron is less fatal, the situation is worsening with imposition of lockdown and extension of social distancing. In view of this, role of a clinical psychologists will be much more challenging in the next few years to come. As the current pandemic situation is novel from the perspective of management of associated psychological issues, most clinical psychologists initially focused on taking spontaneous decisions would now look for evidence-bases. With due course of time and adequate research, they would make themselves better equippedthan before to deal with the new challenges posed by the the pandemics of the future.

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Brief Communication

Motives of Male Gamers to Play Multiplayer Online Battle Arena Game during COVID-19

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Objective: Online games satisfy various kinds of psychological needs of a user. It has become a major mental concern for their increased use, especially during COVID -19. The study planned to understand the psychological needs to play Multiplayer Online Battle Arena (MOBA) during COVID-19. *Method:* Seventy-three male players of MOBA were assessed for their motives to play games. The mean age of Esports players was 23.11 (±4.60) years and all the participants were male. Each player was assessed on the Motivation for Online gaming questionnaire and background datasheet. *Results:* MOBA players showed the high mean scores for competition (16.1±3.8), skill development (14.5 ±3.8), social (14.4 ±3.7), recreation (13Â±1.9), coping needs (13.1±3.7) escape (12.9±4.8) and fantasy (10.1 ±4.4). *Conclusions:* Thus, understanding the underlying motives will help develop strategies to maintain the balance of online and offline activities in challenging times like lockdown.

Keywords: Multiplayer Online Battle Arena, Motives, Intervention, Lockdown, COVID-19

Gaming in the digital platform has become an everyday activity among adolescents and young adults during COVID-19.(Sunil, Sharma & Anand ,2021) The public lockdown restrictions and associated changes in the mode of education and work provided individuals time and the need to use the internet for various purposes, including digital education, work, entertainment, and related activities. Internet was used extensively for relieving psychosocial distress and social isolation (e.g., YouTube. Streaming platforms, online gaming, and others) (King et al., 2020). Gaming is regarded as a substitute to bridge the gap created by social distancing and to escape from "Headline Stress Disorder" (high emotional responses like stress and anxiety to pervasive news reports, which can later result in mental disorders) (Dong & Zheng, 2020). Another online study of 6,416 participants during the COVID-19 lockdown indicated that 46.8 percent of the participants acknowledged the increased preoccupation with internet-related activities. Over 16.6%of them reported an increased duration of internet use during COVID-19. Sun et al (2020) projected a 23 percent increase in cases of internet dependence during this. There has been an increase of 75 percent of online gaming activity during the initial phase of the COVID-19 pandemic, indicating a strong influence of Video Games in daily activities during restricted mobility (Shanley, 2020). Around 60 percent of 13,000 gamers reported that shifting away from games with shorter sessions to games that were more involved and intensive and having more online interactions will further help them overcome social isolation. The unprecedented changes were significant interest in multi-player games, i.e., Multiplayer Online Battle Arena games and Battle Royale games (Simon-Kucher & Partners, 2020).

Multiplayer Online Battle Arena (MOBA) also becomes the preferred choice among players during COVID-19 among the available online games. MOBA has two teams of five players, each represented by an avatar with unique abilities, to destroy their opponents eventually. The term avatar is used in a description of a computer-generated virtual experience. The available in-game options i.e avatar selection, the composition of a team, and deciding on play throughout each game, make it challenging to imagine opponents' tactics, which motivate them to learn new skills to manage these challenges. Competition, mastery, and teamwork are essential components of MOBA. These components further enhance the game's gaming and social experiences (Johnson et al., 2015). Researchers also corroborate the need for socialization and competitiveness in the online gamer. The users also reported that they preferred to play games (MMORPG and MOBA) with robust social features to help users

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overcome social isolation (P Gee, 2011; Tyack et al., 2016).

League of Legends, players' familiarity with their chosen characters and how the characters complement each other contributed to players' self-efficacy (Kim et al., 2016). Research does implicate the video game's role to satisfy psychological needs. There is a need to understand the motives associated with an increased preference for online gaming. It will have implications for knowing more about these players' needs and evolving interventions to manage its problematic use and increased use during COVID 19. It would also help to plan alternative offline activities to keep the adolescent and young adults (AYAs) gainfully engaged during the pandemic.

Method

The study was designed to understand the motives associated with playing online games. A cross sectional survey design with convenience sampling was used to recruit participants from E-sports cafes, tertiary speciality clinic and online platforms.

Participants

Seventy-three MOBA players based in India filled up online survey containing background datasheet and Motivation for Online gaming questionnaire. These players were between the ages of 18 and 35, participating in at least two E sports tournaments per year and spending one to two hours per day on the field. Casual players were excluded as a criterion.

Measures

A background data sheet was developed to assess the hours of plays, the experience of tilting while playing games, and demographic information. The *Motivation for Online Gaming Questionnaire* (Demetrovics et al., 2011), which is a 27-item self-reported questionnaire was used for assessing online gaming motives. The motives include escape (4 items), coping (4 items), fantasy (4 items), skill development (4 items), recreation (3 items), competition (4 items), and social (4 items). The instrument uses a 5-point Likert scale, where a score of 1 means almost never/never and 5 means almost always/always. Minimum and maximum range of scores for escape, coping, fantasy, skill development, competition and social domain is 4 to 20. And for recreation domain the score range is 3 to 15. The Cronbach alpha for the study was 0.90. It was calculated to find out the internal consistency among the test items for the current study in Indian context.

Procedure

The gamers from tertiary specialty clinics, Esport cafes, and social media users based in India were approached for eliciting details about background characteristics and the administration of the Motivation for Online Gaming Questionnaire. A Google Forms survey was used to collect data. All of the participants received invitations by e-mail, WhatsApp, and Facebook Messenger. A link to the survey was provided by the copies of the questionnaire that included all of the instructions in English. Participants were also given the option of inviting their friends to take part in the poll. At the time of filling out the form, the participants gave their consent. "I understand that my participation is absolutely voluntary," the consent item read. I will be required to provide my contact information in order to be sent a future survey to complete; however, my contact information will not be shared with any third parties, and my contact information will be removed from my responses prior to any analysis. The present work was part of non-funded work and got the approval of the Institute Ethics committee. This study was carried out from February 2020 to December 2020.

Results

The Statistical Package for the Social Sciences (SPSS Version 20.0) was used to compute the data. The mean age of male players was 23.11 years (±4.60). The study did not have female participants. Sixty percent of them had more than 13 years of education . 84 percent (n=61) of the Esports players used PC as their primary device, followed by mobile (13.7 percent, n=10) and consoles (2.7 percent, n=2). Descriptive analysis revealed that the reasons for engaging in competitive gaming included enjoyment (45 percent, N=33), making a career in gaming (42 percent,

N=31), skill-building (75 percent, N=5), and self-esteem enhancement (6 percent, N=5). The online survey yielded the trend for 73 MOBA players who got the high mean scores for competition (16.1±3.8), skill development (14.5 ± 3.8), social (14.4±3.7), recreation (13 ± 1.9), coping needs (13 ± 3.7), escape (12.9 ± 4.8) and fantasy (10 ± 4.4) (Table 1).

***Table 1**: Pattern of motives among MOBA players*

S.No	Social	Escape	Competition	coping	Skill development	fantasy	Recreation
Mean	14.4	12.9	16.1	13.04	14.5	10	13
±SD	±3.7	±4.8	±3.8	±3.7	±3.8	±4.4	±1.9
Median	15	13	17	14	15	10	14

They played 7 to 8 hours per day in the last 12 months.

Discussion

The competition motive got the highest mean value. The competition need is associated with more significant time spent playing games (Table 1). Competitive games were preferred for enjoyment, career, and skill development, and enhanced self-esteem. The MOBA genre builds on competitive play and skill components (Demetrovics et al., 2011), whereas the social interaction component of internet games facilitates excessive indulgence in gaming. The multiplayer games are known to reinforce the bond with an online community, improving mental health by reducing feelings of loneliness. However, increment in gaming activities may also intensify the problem of gaming disorder. The study on Multiplayer Online Battle Arena (MOBA) play indicated clear socio-cultural motivations behind gaming. MOBA games involve coordinating and working together towards shared goals (Tyack et al., 2016). It is both frustrating and challenging but has lesser autonomy or independence than other types of games. It often includes mastering the game, along with increased competition and teamwork. MOBA games also facilitate social interaction, which allows for modifications in mood.

Social interaction is a significant and common motivating factor for gaming (Tyack et al., 2016). It allows the individual to find a common middle ground to socialize with people with similar interests. Another social factor contributing to an individual's motivation to play multiplayer online games is constructing their own experiences and social lives according to their preferences and intents. An increased preference for competing and collaborating with people, coupled with enjoyable conversation, feeds into the reward system that encourages more online gaming (Tyack et al., 2016). The majority of the MOBA players excel in the games if they collaborate and team up with members. This increased drive to establish collaborative relationships with players, which can reciprocally affect their winning streaks, can subsequently feed into their need to form lasting relationships with other players (Kokkinakis et al., 2017). Gaming also becomes an escapist motivating factor, where individuals indulge in escaping from real-life difficulties and challenges. In some cases, gaming also acts as a compensatory factor for various individuals.

Various studies have established the motivational factors associated with the Self-Determinant Theory (Neidhardt et al., 2015). According to this, individuals experience autonomy, relatedness, and competence while engaging in gaming behaviour. While some studies have established lesser autonomy and increased frustration in MOBA games, increased relatedness is often manifest in need for teamwork. In a team, individuals often associate and work as a team which acts as a motivational driver (Johnson et al., 2015). Individuals who play MOBA games for longer indicate higher socialization levels through the game (Brühlmann et al., 2020). Hence, while MOBA gaming starts because of social factors, MOBA players also become more socially adept by playing the game. Especially during the current COVID-19 crisis, games are helping players to overcome the adverse effects of social isolation

(Oe, 2020). The study did not elaborate on the players' gaming disorder status. It also did not have qualitative corroboration for preferring to play this game during COVID-19. The study's strength lies in documenting the fulfilment of the need for competition, skill development, and social and coping motives through MOBA during COVID -19.

Despite the findings, the study needs to be interpreted in the light of certain limitations. Ours was a convenience sample study, and hence it suffers from the usual sample and respondent's biases and their eventual effects on the study results can't be ruled out. Since our Esports sample only consisted of males, the findings are difficult to generalize. Although we made attempts to reach out to highly professional Esports players, results suggested that majority of players included in our study belong to amateur category, hence the comparison between professionals' athletes and amateur Esports players would have given certain biased results.

Conclusion

Due to the continuation of COVID-19 restrictions, it is possible that gamers use of online games for social interaction will continue, so understanding the underlying psychological variables for playing MOBA or any other games will help in developing strategies to maintain the balance of online and offline activities in the challenging time of lockdown and teach individualized healthy coping strategies to AYAs to manage the stress of the pandemic. With the current scientific understanding that COVID 19 waves are expected in the near future, there is a need for evidence-based interventions to reduce time spent on gaming

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Brief Communication

Professional Quality of Life of Clinical Psychologists During COVID-19 Pandemic in India: A Short Survey

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Mental health professionals regularly exposed to the traumatic experiences of the people they serve are particularly susceptible to develop stress reactions. Such exposures during their professional activity often cause physical and mental exhaustion depleting their ability to cope with challenges in the day-to-day life. From this perspective, the present study attempts to examine the professional quality of life (compassion satisfaction, burnout and secondary traumatic stress) during COVID-19 pandemic in a sample of 42 clinical psychologists in India. The study employed an online survey method to estimate the professional quality of life among clinical psychologists working in different settings providing psychotherapies or counseling services to the individuals during COVID-19. Professional Quality of Life Scale (PROQOL) version 5 online Google form was used for collecting their responses. However, the findings of this short survey indicates that almost all the clinical psychologists reported their professional quality of life in terms of average to high compassion satisfaction, no burnout and minimum secondary traumatic stress even during the time of COVID-19 pandemic when the second wave was on the peak. In contrast to the Western studies, the present study concluded that professional quality of life was found to be average to high among clinical psychologists in spite of exposure to people experiencing traumaticstress. The reason could be their excellent social support system.

Keywords: professional quality of life, compassion fatigue, compassion satisfaction, burnout, secondary traumatic stress, clinical psychologists.

Health care professionals, emergency workers and community service workers often report experience of excessive stress while dealing with the deeply troubled and traumatized clients during terrorist attacks, trauma emergency, disasters, war and pandemic situations (Cocker & Joss, 2016). Those who are regularly exposed to the traumatic experiences of the people they serve are particularly vulnerable to stress-related disorders. This is seen in feelings of tension, preoccupation physical distress. It depletes their ability to cope with their everyday environment. This indirect trauma is often referred to as "compassion fatigue," (CF) a term meant to capture the therapist's outpouring of compassion and empathy and the resulting reduction in energy and interest in hearing about others' difficulties (Figley, 2002). Compassion fatigue occurs when stress from therapy exceeds optimal values; however, individual optimal levels of stress may vary based on level such as motivation. Some therapists experience intrinsic motivation to provide therapy because they want to help people in need (Linley & Joseph, 2007). This positive attitude is often maintained for a long time and provides happiness and fulfillment to the therapist (Stamm, 2002). Burnout, unlike compassion fatigue, is often a result of disagreement between an individual and workplace demands (Deighton, Gurris, & Traue, 2007). It is associated with a lack of job fulfillment and tends to occur over time, instead of having a sudden onset.

Burnout is also prominent across many professions and is not only found in those who work with trauma victims (Harr & Moore, 2011). Finally, burnout also differs from compassion fatigue in that it does not have the secondary symptoms of PTSD associated with it (Craig & Sprang, 2010). Secondary traumatic stress refers to the "natural consequent behaviors and emotions resulting from knowing about a traumatizing event experienced by a significant other- the stress resulting from helping or wanting to help a suffering person" (Figley, 1995, p. 7). This is very similar to the experience of PTSD in terms of intrusive imagery, avoidance, hyperarousal, distressing emotions, cognitive changes, and functional impairment (Figley, 1995).

"Compassion satisfaction" is a term used to capture this phenomenon that is thought to

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contribute to the 4 mental, physical, and spiritual well-being of those in the helping professions. It may even serve as a buffer against burnout and compassion fatigue (Harr & Moore, 2011).

Various studies have found greater compassion fatigue among various non mental health professionals such as medical doctors, critical care nurses, radiation oncologists, social workers, audiologists because of their employment in work setting including patients with more severe medical conditions, caring for patients who died, patients challenging behaviors, work load and personal issue. Neville and Cole (2013) studied health promotion behaviors, compassion fatigue, burnout, and compassion satisfaction in nurses practicing in a community medical center. Significant relationships between compassion satisfaction, burnout and compassion fatigue were found. A sense of fulfillment was associated with the reduction of burnout and compassion fatigue, and engaging in health promoting behaviors was shown to increase compassion satisfaction (Neville & Cole, 2013).

Compassion Fatigue in Mental Health Professionals Information about the scope of compassion fatigue in mental health professionals is scarce and inconsistent, and much of it is qualitative in nature; however, most of it aligns with findings from studies conducted with non-mental health professionals (Craig & Sprang, 2010).

Baird and Jenkins (2003) speculate this 11 discrepancy with prior findings may have to do with the severity of client trauma, a variable that was not measured. They also suggest that the rewarding nature of working with such a vulnerable population may sometimes act as a buffer for compassion fatigue.

Craig and Sprang (2010) assessed clinical psychologists and clinical social workers for compassion fatigue, burnout, and compassion satisfaction. Variables that were found to increase the risk of compassion fatigue in this study included younger age, having no special trauma training, having an increased percentage of individuals on the caseload with PTSD, and being an inpatient practitioner (Craig and Sprang). Working through traumatic events experienced by someone suffering from PTSD seems to be helpful to the client, while psychotherapy work with victims of PTSD may be harmful to the therapist (Deighton, Gurris, & Traue, 2007).

A sample of 35 clinical psychologists, 13 other psychologists, 10 psychiatrists, 9 other doctors, 18 social workers, and 13 other professionals (6 physiotherapists, 7 art therapists, and 1 child therapist) from Germany, Austria, and Switzerland were assessed for level of distress and amount of time spent working though trauma during sessions. Results of this study indicated that compassion fatigue was found to be associated with a low degree of the therapist working through events with the client (an indicator of avoidance) (Deighton, Gurris, & Traue, 2007).

Sprang, Clark, and Whitt-Woosley (2007) surveyed a total of 1,121 licensed or certified behavioral health providers (psychologists, psychiatrists, social workers, marriage and family counselors, and drug and alcohol counselors) assessed variables related to compassion fatigue such as age, gender, educational level, licensure, years of experience, setting, and whether or not the individual had specialized trauma training. Results indicate 12 that female gender, a lower level of traumatic specific training, and a higher caseload percentage were all related to an increased risk of compassion fatigue (Sprang Clark, & Whitt-Woosley, 2007).

Rossi et al. (2012) assessed compassion fatigue in staff working in community-based mental health services in Verona, Italy. The sample consisted of psychiatrists, psychiatrists in training, psychologists, social workers, psychiatric nurses, rehabilitation therapists, and healthcare support workers. Psychiatrists and social workers were reported to have the highest level of compassion fatigue. Also being distressed increased the likelihood of scoring high on the compassion fatigue scale. This study mirrored other studies in that it reported that female gender was a significant predictor for compassion fatigue (Rossi et al. 2012).

Since psychologists may have a difficult time recognizing and reporting symptoms of compassion fatigue, it is important that they are aware of the warning signs (Kramen-Kahn & Hansen, 1998) and that more work is done to uncover variables that may influence the risk of developing compassion fatigue (Craig & Sprang, 2010).

Clinical psychologists do not operate in isolation, but play an interactive role in therapy. This interactive role serves to help the client work toward goals and build a therapeutic relationship. If a therapist is experiencing clouded judgment due to compassion fatigue, his behavior in this interactive 7 role may result in emotional resistance from the client and discontinuation of therapy (Omer 1991; Skorupa & Agresti, 1993).

The Covid-19 pandemic has imposed lot of restrictions on people and this has caused many emotional, behavioral and mental health issues among general population, which in turn might have caused additional burden and more commitment of mental health professionals such as Clinical Psychologists to handle and deliver psychological counseling services to the needed at large. In COVID-19 outbreak, the reactions of stress, anxiety, panic and depression may commonly be seen. Psychological well-being and health are required to be maintained in this crisis. Along with medical care and treatment of affected at risk individuals, clinical psychologists were actively addressing the emotional and behavioral reactions of the general population as well as special population at risk. During this phase of crisis several clinical psychologists were appointed at various COVID care institutes, COVID wards, Airports, Hospitals, Community screening, isolation centers, and quarantine centers throughout the country, in which clinical psychologist were also engaged for providing psychological aids to the individuals to manage the psychological health of the COVID positives patients or their caregivers. This situation on the other hand created very challenging to the healthcare workers, doctors, clinical psychologists to serve and support the nation while managing their own personal losses and continuously long working hours. The physical as well as mental health of the health providers was also at risk having these infections more dangerous. So, considering the challenges the present survey was planned with the aim to estimate the compassion satisfaction, burnout and secondary traumatic stress during COVID -19 pandemic among clinical psychologists in India.

Methods:

Design: Study employed an online survey method to estimate the professional quality of life among clinical psychologists.

Participants

Qualified and registered clinical psychologists in the age range of 25-65 years working and providing psychotherapies or counseling to individuals in different settings during COVID-19. Their work profile included clinical practice, research and teaching and experience varied from 6 months (after obtaining their professional qualification) to 35 years. The details of their distribution along these parameters are provided in Table 1.

Material

Professional Quality of Life Scale (PROQOL) version 5 (2010) on Google form was used to assess the compassion satisfaction, burnout and secondary traumatic stress among clinical psychologists. PROQOL was developed by Stamm (2002). The alpha reliability coefficient for compassion satisfaction was .88, for secondary traumatic stress was .81, and for burnout, it was .75. It is a 30-item questionnaire with Likert scales from 1-5.

Procedure

The Google form comprising of statement of consent and statements of PROQOL was prepared and link was released over email group and on WhatsApp groups of the premier organization of clinical psychologists in India. Responses received during the peak of COVID -19 second wave from 1st May 2021 to 31st May 2021 were analyzed. Total 42 responses were obtained and analyzed descriptively. Results are presented in the Table 1 and Figure 1.

Results and Discussion

The aim of the study was to estimate the compassion satisfaction, burnout and secondary traumatic stress during COVID-19 pandemic among clinical psychologists. Background characteristics are presented in the result table 1 which indicates 57% of the clinical psychologists were females, mean age of the participants was 35.29 years, around 42% were in the research and teaching followed by 33% were in practice and rest were doing all research, teaching and practice. Further, majority of them are working in Government setups followed by private practice and private hospitals. Mean years of experience of working was 16.49 years which ranges from 6 months to 35 years. The findings of this small survey on the PROQOL indicates that almost all the clinical psychologists reported their better

Professional quality of life in terms of average to high compassion satisfaction, no burnout and minimum secondary traumatic stress even during the time of COVID pandemic when the second wave was on peak. Although, very small number of clinical psychologists has responded to the survey, the obtained findings are important in a way that clinical psychologists who responded during peak of the second wave of Covid-19. It might be possible that many clinical psychologists were actively engaged in their duties to provide their services to people of the country and may not have found time to respond to the survey. Face to face interview survey is the best method to estimate the professional quality of life of the clinical psychologists but considering the COVID-19 challenges, it was a best possible way of conducting the study. So, keeping many limitations of the online survey the findings still has some reasonable implications and observations. Findings of the study suggest that during the COVID-19 most of the Clinical Psychologists maintained their mental health and remained stable. In fact, mental health service providers themselves are not able to recognize signs of compassion fatigue, burnout or secondary stress. That may be due to their ethical obligation that "psychologists refrain from initiating an activity when they know or should know that there is a substantial likelihood that their personal problems will prevent them from performing their work-related activities in a competent manner" or "when psychologists become aware of personal problems that may interfere with their performing work-related duties adequately, they take appropriate measures, such as obtaining professional consultation or assistance and determine whether they should limit, suspend or terminate their work-related duties (American Psychological Association, 2010, p. 6) may make them thinking that adhering to this ethical standard may be difficult for a psychologist experiencing compassion fatigue because the therapist may not recognize his or her own symptoms (Skorupa & Agresti, 1993). Another possibility is that a therapist does recognize the experience of compassion fatigue, but is unwilling to accept the fact. Denial of symptoms may happen for two reasons: either the therapist is attempting to cope with the stress reaction, or he is fearful of being seen by colleagues as unprofessional (Munroe, 1999). This could be another reason the all domains of PROQOL are found to be in positive directions.

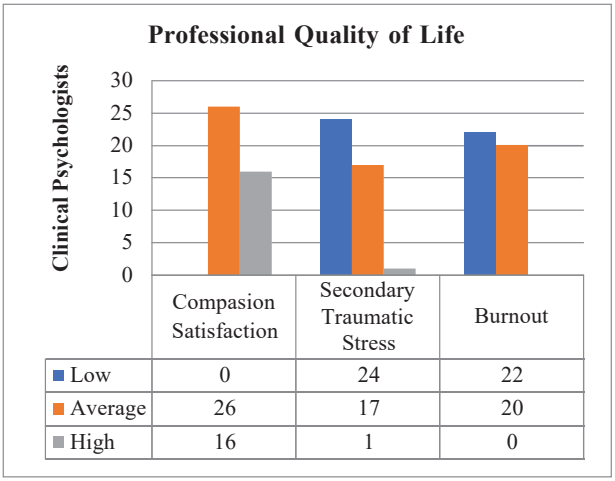

Figure 1. *The number of clinical psychologists on different domains of PROQOL scale.*

Table 1. *Background characteristics of the clinical psychologists (N=42)*

Variables	Frequency (%)
Gender	
Male	18 (42.85)
Female	24 (57.15)
Age in Years	
Mean	35.29 years
Minimum	25 years
Maximum	64 years
Work Profile	
Practice	14 (33.34)
Research and teaching Practice,	18 (42.85)
teaching and research	10 (23.81)
Work setting	
Government Institutions	20 (47.62)
Private Institutions/Hospitals	08 (19.05)
Private Practice	14 (33.33)
Experience	
Mean	16.49 Years
Minimum	6 months
Maximum	35 years

On the other hand, various initiatives were taken by the Government and other stake holders

for the care of the physical health, shelter, food, water, stay, social security, counseling services etc for the general population but not sufficient steps were taken to ensure the adequate mental health of the healthcare providers during the COVID-19.

Despite these all odds, clinical psychologists emerged as most compassionate professionals who developed a better way to handle their own mental health issues during this crisis time. The methodology of conducting the online survey has many limitations in terms of controlling of variables and confounding factors but still if we consider it as their opinion only, the finding appears very encouraging and true. Future studies may be carried out with robust methodology to longitudinally assess the quality of life issues among clinical psychologists. War against the covid-19 is not yet over; clinical psychologists have to provide further care to the individuals with special needs. Post-covid impacts are to be faced by the persons in the form of unemployment, poverty, which may further affect negatively their mental health. Post Covid a sharp increase in mental health problems is expected which will impose additional burden on limited number of trained clinical psychologists and they have to maintain their professional quality of life, as it is evident from the findings of the survey. As a clinical psychologists we have to be prepared to deal with the post-covid issues for example those who were already on some kind of mental health treatment may present with the relapse and increased self care neglect or irritability, anger or violence; persons already dependent on the substance or alcohol may present with the various issues of withdrawal, or mental health issues. In case of children with special needs are most affected population followed by persons with various disabilities due to unprofessional care and change in the routine. Elderly may be at high risk as they are most vulnerable population having one or the other health issues and Covid has increased their risks. Apart from this, there will be increase in the new cases of mental health problems due various environmental restrictions and challenges. Health care and frontline worriers are the most affected individuals, who will be subjected to isolation and may develop anxiety, fear, depression, distress and suicidal episodes.

So, clinical psychologists have an increased responsibility to handle mental health issues of the general population and at risk populations. Thus, maintain the mental and physical health of the clinical psychologists is a new challenge and require a strategy to deal with it.

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IACP Guidelines for Psychotherapy Supervision by Clinical Psychologists

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1.0 Introduction

Psychotherapy supervision is an essential part of psychotherapy practice and is crucial to psychotherapy training, professional development of the psychotherapist, and ethical practice of psychotherapy. This field is fast-growing and many training programs in India have recognized the importance of psychotherapy supervision for several decades now. However, it still requires systematic attention and procedural developments. The continued need for psychotherapy supervision has been expressed by psychotherapy practitioners, even after their qualification as clinical psychologists. This need has been expressed at various academic meetings and events, however, there is a dearth of documents or common guidelines on this matter. To address some of these issues, a Taskforce for Psychotherapy Supervision was set up under the aegis of the Indian Association of Clinical Psychologists in 2020. This document is the result of deliberations by the members that resulted in some guidelines for psychotherapy supervision in India. It provides general guidelines pertaining to critical issues in psychotherapy supervision-such as basic principles, ethical issues, setting, structure; and formal processes- such as eligibility criteria for supervisor and supervisee, contract, the content of supervision sessions and termination. It is hoped that these guidelines will form the basis for platforms for formal psychotherapy supervision and open more interest and organization of similar documents in future. Similar initiatives can ensure not just competencies in psychotherapy practice, but also ethical practice that will benefit the supervisee and client.

Psychotherapy supervision usually can be offered once the supervisor is well-established as a psychotherapist. It is not uncommon to assume that any therapist can easily supervise others. Yet, frequently it is discovered that psychotherapy supervision is much more than merely being a good therapist. Psychotherapy supervision, along with personal therapy for therapists, is believed to be one of the strategies to prevent unprofessional conduct. Over the last many decades a variety of approaches to supervision in psychotherapy have emerged. This has also been influenced by the conviction that psychotherapy supervision is different from clinical supervision. Internationally, several associations of psychotherapy as well as many psychotherapy researchers have attempted to discover features of good supervision and organized these for psychotherapy training, core competencies of therapists, supervision formats, training formats for supervisors, and supervision of supervisors (Fleming & Steen, 2004). In India, psychotherapy training formats across settings may not be as varied as in some of the other countries but supervision formats may be quite varied and perhaps inadequately detailed or documented. The only available document on training in psychotherapy is that by Rao (2001). In recent times, many clinical psychologists while participating in national workshops and conferences have expressed a desire to receive supervision of their therapies in their early career professional practice. This document is towards providing an organized and legitimate platform for psychotherapy supervision through the Indian Association of Clinical Psychologists. Perhaps

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this can form a foundation for supervision that can be offered by those experienced psychotherapists who would like to contribute towards supervision of psychotherapy offered by qualified clinical psychologists.

Internationally, psychotherapy supervision is not yet fully a discipline, with a full mastery of its complexities and challenges. While international developments continue with a certain momentum, in India, uniformity in standards of psychotherapy offered to the public is needed. This document may facilitate one such step towards aligning our uniqueness with international common trends. It is also important to mention that while psychotherapy supervision is relevant for psychiatrists as well as psychiatric social workers, internationally the literature has more contributions from clinical psychology profession.

The contents of this document are applicable to the context of individual supervision of psychotherapy cases where adult individual psychotherapy, couple psychotherapy, family psychotherapy or child psychotherapy is being offered by the psychotherapist. In coming years, supervision practice using these guidelines as well as emerging supervision needs of practicing psychotherapists may influence further expansion/newer developments in supervision.

The guidelines on supervision have been prepared to give psychotherapy supervision some format and structure. The content given here provides an outline for practice of supervision and is perhaps pertinent for all qualified professionals. The preparation of this document is purely an academic and scientific exercise by the contributors. The Indian Association of Clinical Psychologists (IACP) is not responsible for any legal aspects of the case(s), quality of supervision, unprofessional/unethical conduct of a supervisor/supervisee associated with therapeutic relationship, supervisory relationship, clinical outcomes of the case, or the choice of therapy being practiced. IACP is not liable for any data breach and legal aspects of the cases covered under these supervision formats. Ethical practice is a prima facie mandate to be followed by all mental health professionals. The supervision practice inherently follows the same code of conduct applicable to all clinical psychologists in their practice. Ongoing updates on ethical aspects for psychotherapy supervision can also be found through the American Psychological Association, International Family Therapy Association, American Association of Marital and Family Therapists, Society for Exploration in Psychotherapy Integration, International Society for Emotion Focused Therapy. Some other background resources can also be accessed by psychotherapy trainees, trainers, supervisors as well as practitioners for adequate professional conduct (Isaac, 2009; Ladany, Lehrman-Waterman, Molinaro & Wolgast,1999).

The importance of psychotherapy supervision in training as well as in addressing process related issues has been well-documented (Edwards, 2013, Watkins, 2014). The role of the supervisor is envisaged as performing many functions in the process of psychotherapy supervision. Psychotherapy supervision can be viewed as a process that rests critically on the relationship between the supervisor and supervisee. It involves professional self-disclosure and takes place through creating an atmosphere conducive for this. It also aims to equip and support the therapist in therapeutic failures and empowers the therapist, while helping the therapist in developing clarity on use of theoretical concepts and techniques. Psychotherapy supervision is also crucial in enabling the development of a capacity to use process issues of sessions for the benefit of the patient as well as for one's competencies as a therapist.

Various theoretical models of supervision have been described (Barker & Hunsley, 2013; Edwards, 2013). A detailed examination of these is beyond the scope of this document. Some relevant models are mentioned here and can be used for further developments of relevant guidelines for India. Commonalties across models are also emphasized here as creating a generic set of guidelines for supervision is most critical at this stage of psychotherapy developments in the country. Supervision involves building individualized plans for training supervisees in their learning of psychotherapy. This is a fundamental premise that perhaps is largely accepted by all psychotherapy supervisors in India.

It is recognized by psychotherapy researchers, that knowledge of these models of supervision are fundamental to the ethical practice of

psychotherapy training. There are several models of supervision available, however the three earliest models have been the developmental, integrated and orientation specific models (Westefeld, 2008).

The developmental model acknowledges three levels of supervisees, beginning, intermediate and advanced. The processes that a supervisee goes through include self-awareness, motivation and autonomy. This model identifies growth areas that the supervisee goes through. These include skills and competence in different areas such as assessment, case conceptualization, treatment planning and ethical practice, in addition to the theoretical orientation necessary for practice of psychotherapy (Stoltenberg & Delworth, 1987). It emphasizes the importance of the growth and development of the supervisee through these stages, as a therapist and as supervisor.

Integrated models of supervision were designed to fit supervision of eclectic approaches and cover many different models. They tend to be atheoretical and focus on areas of skill building (e. g. The Discrimination Model: Bernard and Goodyear, 1992). Like the developmental model, the Discrimination model also highlights skill-building in supervision, namely process (how the supervisee communicates the process, for eg how well did the client reflect emotion expressed by the client), conceptualization (application of a specific theory to a case) and focus on supervisee's skills for identifying problems and selection of an appropriate learning technique. The supervisor may use modeling and be a co-therapist, or use behavioral rehearsal in supervision. More recently, Watkins (2018) has proposed a generic, trans theoretical model of psychotherapy supervision, that highlights and integrates input, output and process variables in psychotherapy supervision. This is similar to the common model of psychotherapy, described by Orlinsky and Howard, (1987).

This document is towards facilitating supervision of intermediate/advanced level supervisees. The supervisors may indicate if they would supervise for intermediate level or for both intermediate and advanced level. They could also describe themselves as inclined towards integrated model or orientation specific. Dimensional view on this is perhaps more relevant for India rather than a categorical approach. Also, these guidelines are to be activated in the context of new therapy cases of the supervisee and ensuring that the clients are not participating in multiple therapies simultaneously.

The following sections cover basic principles, eligibility criteria, and contract related aspects of psychotherapy supervision through IACP platform.

2.0 Basic Principles

Who is a supervisor?

"A supervisor is a psychotherapist who has assumed, by virtue of training and/or experience, the role of facilitating, observing and monitoring the work of another psychotherapist who may be in training, in private practice or in an organization, who requires supervision for professional support or as a condition of employment" Mander, 2002, (page 38).

Some general aspects of psychotherapy supervision are: a) Awareness and knowledge of the evidence-based approaches b) Careful planning of the course of psychotherapy c) Regularity during the process of supervision d) Maintenance of ethical standards and e) Careful evaluation of the needs of the supervisee. Supervisory relationship and the supervisor's engagement in it are of utmost importance. This requires being sensitive to the needs to the supervisee and value the competence of the supervisee, while recognizing vulnerabilities as well (Overholser, 2014)). Supervision must ensure new learning for the supervisee, in a safe space and through structured support. Supervisor's training, knowledge and competence in evidence –based approaches, various psychotherapeutic procedures, process and outcome research on psychotherapy are crucial in offering supervision. Presumably, clinical psychology course covers it adequately as these are essential for the practicing psychotherapy. Further professional development through continued education and honing of knowledge and skills by the supervisor are desirable through training programs, workshops, and various other similar professional programs.

The supervisor's competence has been recognized to be a cornerstone for effective outcome in psychotherapy. This ensures that one

performs one's own role within ethical boundaries and also helps monitor the supervisee's action in executing the therapeutic process. A true competence is also known as meta-competence, as it involves introspection of supervisor's own thoughts and actions (Falender & Shrafranske, 2007). Overall, an ethical supervision always entails a competency-based approach, which creates a framework that assures initiation, implementation and evaluation of the whole therapeutic process irrespective of the therapeutic models utilized. In recent times, supervisor's competence has been viewed as a construct that can be assessed or evaluated through predetermined measures. A large body of research is currently focusing on training.

Four elements providing the knowledge of effective supervision practice are described here. These are broadly: structure and setting, supervisory working alliance, content/ethical aspects, and termination.

2.1 Structure and setting

Supervision must have some explicitly stated format. The following eight sections capture the basic framework for psychotherapy supervision:

i) Goal setting: It includes both the development of goals and attention to goals throughout the supervisory relationship. As much as is possible, supervisors work with supervisees to create realistic goals that are also specific, can be measured and attainable. Treatment outcome is the ultimate focus of the psychotherapeutic process. Hence the client and the treatment process is central in the supervisory process. The supervisor plays an active role in the planning of the course of psychotherapy, as well as careful monitoring of the supervisee, who actually delivers this intervention (Watkins, 2011).

Overall, goals for therapy can be divided into short-term goals and long term goals. Short term goals must be attempted to provide relief at the earliest possible to those problems due to which client is currently suffering or symptoms. Whereas, long term goals should deal with underlying problems which are present in the client for longer period of time for example, personality issues. It is expected that in the format being developed here, supervision needs will be more challenged pertaining to long-term goals but this remains to be discovered and discussed in subsequent initiatives of IACP.

ii) The initiation of supervision: The formal initiation of supervision takes place following the goal setting. At this time the supervisee may need intensive monitoring to assure the correct execution of course of action.

Space: Creating appropriate privacy, uninterrupted time, and all within the expectations, rules, and all required procedural permissions of the organization of the supervisor are some of the important factors to consider with respect to space.

Mode: This may include face-to-face supervision, phone supervision, video supervision formats or blended formats convenient for the psychotherapist and the psychotherapy supervisor. Both the therapist and psychotherapy supervisor may be flexible while making these arrangements and accept that these may be limited by infrastructure and resources available to each although face-to-face supervision is strongly recommended.

iii) Frequency and regularity of supervisory discussions: The supervisee and supervisor must mutually discuss and arrive at a suitable frequency of discussion. The frequency should facilitate optimal learning and changes in agreed upon frequencies may be based on supervisee's needs, client needs and issues that may arise from the therapeutic process. During psychotherapy training in M. Phil. in Clinical Psychology, it is customary to discuss therapy sessions at least once a week/discuss after each session and usually these are hour-long discussions. Assuming that trained clinical psychologists would have already experienced this level of supervision as beginner supervisee, a clear and reliable arrangement will promote a better supervisory experience for both.

iv) Conducting supervision (Initial-Middle-Terminal Phase with Feedback and Reflections): Supervisors need to adhere to professional standards (e.g., frequency of supervision); predetermined therapy goals, meet face-to-face with supervisees whenever

feasible or use technology if physical meeting is not possible. Modification of structure of sessions or plan can be done as needed based on supervisee needs and client's welfare.

Initial sessions may focus on baseline assessment of psychological functioning before the intervention, working on alliance, preparing the mental set of the clients, understanding insight and motivation of the clients, providing psychoeducation to clients, and socializing the client to psychotherapy. Whereas, middle sessions should incorporate the active intervention for short term goals of the therapy. Terminal sessions consist of revision of the active intervention and empowering the client for independence and other necessary elements at the end of the therapy including providing knowledge regarding the importance of medical and therapeutic compliance and follow-ups.

Supervision can also address how the therapist can arrange the therapy hour into segments covering tasks, goals and bonds aspects while keeping the session relevant and useful for the client. Expanding repertoire of things therapists can say and ask in sessions, working with session transcripts are some of the other ways in which challenges faced by therapists can become tangible in supervision.

v) Reflections on supervisory processes by supervisor: The supervisor's reflection of the process of supervision is as important as the supervisee's reflections of the therapy process. These may be facilitated by self-reflection, note/record keeping and attempts at maintaining objectivity in this process. Supervisor must be aware of threats/barriers to this process. Ultimately, the client's well-being, treatment outcome, supervisee's emotional and psychological well-being and learning are crucial goals to be considered at all times (McMahon, 2014).

vi) Evaluation: In beginners' psychotherapy training, supervisors communicate the evaluation plan to supervisees when supervision begins. They also encourage the supervisee to engage in self-evaluation and self-reflection, and attend to the range of psychotherapy skills and supervisee's own learning goals. Much of this forms a part of their qualifying degree. This aspect is not applicable in the present scenario. The purpose of evaluation in the present context is to promote self-growth, professional discourses, and capacity to learn from professional experiences. The evaluation could include therapist's measures of therapy, client as well as supervision. Evaluation is an important aspect of supervision and the supervisor is expected to evaluate the supervisee consistently and objectively. Specific documents and records may be utilized for this purpose. In this regard supervision at the same time educative. The supervisor also performs several administrative roles, which include documentation (as the one of the supervisor's liabilities include-direct harm to client and responsibility for supervisee actions), performance evaluation and ensuring specific goal-setting related to tasks, providing effective feedback, timely, systematic, that is balance (Shah, 2020).

vii) Documentation: This provides supervisors with a measure of accountability. Documentation by the supervisor includes a contract for supervision (signed by all parties involved), case notes for the supervisory sessions, and supervisee evaluations. Documents maintained by supervisors are sensitive to both clients and supervisees. They protect the welfare of the client, as well as privacy and confidentiality of clients and supervisees.

Various authors have discussed the importance of maintaining supervision records. For the supervisor, the welfare of client as well as the professional development of the supervisee are important (Falvey & Cohen, 2003).

Some of the essential components of the supervision record are a contract for supervision, a summary of the supervisee's needs for learning as well as experience, in some places performance evaluations of the supervisee, a record of case discussions and decisions that were taken based on these discussions, a note of supervision meetings held and missed or cancelled, and any

conflicts in the process and how they were resolved (Munson, 1993). It is recommended that both supervisor and supervisee should have their copies.

The benefits of record keeping are that this facilitates proper use of the supervisory process for the needs of the supervisee and can be useful for both in case difficulties arise in supervision.

viii) Other Considerations: Monitoring own competence, assurance of delivering best skill of the supervisee to the clients, checking own self-care, getting feedback from the clients while adhering to ethical principles are some of the other essential aspects of this process. Additionally, the supervisor and supervisee need to implement culturally sensitive interventions. Especially in a country like India with huge diversity in belief systems and culturally sanctioned rituals and practices, one must be well aware of sensitive aspects of clients from diverse backgrounds. Moreover, gender, race, sexual orientation, disability, social class, caste, religion aspects of the client and supervisee may require attention and discussion to help the supervisee be aware as to not to allow it to influence the supervisory relationship.

2.2 Supervisory working alliance

There is ample literature available on supervisory working alliance (Bordin, 1983, Watkins 2014) and it must be emphasized here again. Supervisors should pay particular attention to provide safe and mutually trusting environment in which supervision can take place. Supervisee's anxiety is an important factor in supervision and resistance on the part of the supervisee may be seen part of the normal responses to the changes and challenges the supervisee is expected to face. The supervisor thus needs to address and manage these dynamics, while allowing the growth of the supervisee. Alliance between therapist and client as well as use of various measures related to therapy process and outcome could also be a part of supervisory discussions. Supervisory relationship is recognized as being the key ingredient for satisfying supervisory experience and this includes supervisor's engagement in the relationship.

Supervisory alliance can be considered as a trans-theoretical construct, with attention to rupture and repair events for therapeutic alliance (Aten et al 2008). It enhances awareness of client and awareness of process issues. It also helps overcome personal and intellectual obstacles to mastery and deepen understanding of theory and concepts.

Supervisor self-disclosure, another major reality of supervision, is acceptable for personal material/psychotherapy experiences/ professional experiences/reactions to trainee's/supervisee's client(s)/supervision experiences. However, it must be viewed on the dimensions of (1) congruent-discordant to discussion (2) Non-intimate to intimate (3) Service of the supervisor or supervisee. It is acceptable if it is congruent, non-intimate and in service of the supervisee. Supervisor self-disclosure can occur in many ways, it can have a positive impact on alliance and supervisory process, if used appropriately. The supervisor has to be aware of the nature and purpose of self-disclosure in supervision. The supervisor must avoid narcissistic disclosures (that are personal or professional, intimate & in service of supervisor rather than supervisee) (Farber, 2003, Ladany & Walker 2003)

The focus of supervision must be on the following aspects. Some of them relate to the professional development of the supervisee, while others focus on what supervision is and what tasks the supervisor is expected to undertake. Psychotherapy supervision must focus on conceptual and technical skills as well as on outcomes (supervision-focused & client-focused outcomes).

While skills are important, the supervisor is also required to pay attention to the therapeutic process and the supervisee's feelings in this context, and on the interpersonal dynamics, thus having to balance various competing demands. The supervisor has the task of decreasing supervisee anxiety and increase supervisee tolerance of ambiguity. In this context the supervisor may use specific supervision-based models (developmental vs competency-based). These points are most critical during the stage of psychotherapy training during the professional training course. But they also apply to other supervisory contexts. Usually, making available competencies tangible in discussions and then

integrating new concepts, techniques and models in small steps across supervision sessions while constantly empowering the supervisee to make choices can be very helpful.

2.3 Content of supervision and ethical standards

Careful evaluation of the needs of the supervisee is important. The needs of the supervisee may be variable based on factors such as the phase of therapy, skills and competence of the supervisee, difficulty of the client's concerns as well as the psychological and emotions needs of the supervisee.

Psychotherapeutic process often brings up difficult emotions in the supervisee. Therefore, psychotherapy supervision needs to provide space for acknowledging this. These could be negative emotions of anger, sadness, or anxiety, or strong positive emotions, which may eventually interfere in the process of providing therapy.

It is common in psychotherapy training during the M. Phil. course in clinical psychology for supervisors to use live demonstrations, therapy videos, group-supervision, psychotherapy case presentations, workshops, and specific reading material to develop conceptual knowledge as well as skills in trainee-therapists. However, in intermediate and advanced supervision level being discussed here, supervisor need to only give recommendation of resources to be mastered by the therapist. The supervisor must clarify expectations from the supervisee regarding the overall supervision, such as general rules, frequency of meeting, involvement in the supervisory process and so on. As part of the supervision process, the supervisor helps the supervisee in developing clarity on use of theoretical concepts and techniques (skills, competencies). The exact modalities and methods are decided by the supervisor and mutually agreed upon by both supervisor and supervisee.

The supervisor ensures that there is a mutual understanding and agreement regarding the rules and contract governing the supervision, including confidentiality, note or record keeping. The supervisor provides support to the trainee supervisee/supervisee in therapeutic failures that may be encountered and also empowers the trainee-therapist.

The supervisor in his/her role as supervisor facilitates the development of the capacity, in the supervisee, to use process issues of sessions for the benefit of the patient as well as for one's competencies as a therapist. This involves ensuring a conducive atmosphere, time and space for reflection and understanding of process issues that are likely to occur in the context of psychotherapy. Supervision must also prevent unprofessional conduct during psychotherapy and in the process of supervision. The supervisor must also display both sensitivity and courage when engaging with supervisees' personal and professional identity. Psychotherapy supervision facilitates professional self-disclosure from the supervisee maintaining professional ethics and standards (Kaiser, 2004). Both also need to maintain clear boundaries with trainee therapist/supervisee. Maintaining boundaries is an essential element of the supervisor- supervisee relationship and these include boundaries of time, space, content, nature of relationship (Power, 2007).

These are determined by various factors such as definition of roles and relationships, time, space for supervision, content, and confidentiality (Heru, Strong, Price, & Recupero, 2004; Heru, 2006; Power, 2007). Some of the relevant questions to consider include, the relationship between the supervisor and supervisee. The relationship should be such that the supervisee is able to ask questions, without feeling afraid, ashamed or uncomfortable. The supervisor must encourage questions as it facilitates learning and reflection.

Confidentiality of the supervision content must be maintained by both, the psychotherapy supervisor and the supervisee. However, the extent to which confidentiality is to be maintained by both with respect to the content of the discussion and clinical material being discussed may be affected by a few factors. Some concerns may be anticipated in the beginning and agreement entered in the contract. An important question is under what circumstances confidentiality would be breached. Some of these may include threats, disciplinary actions to be considered, breaching professional code of conduct. Confidentiality includes record keeping of the supervisory sessions and making it clear to the supervisee as to whom the records will be

made available in the event that it is needed. This may include a third party being able to access these records and if so under what circumstances. Confidentiality also includes information brought in by the supervisee, such as supervisees' emotions.

In the event of malpractice, unethical practice during the course of psychotherapy supervision, either party should bring this to the notice of the regulatory bodies. The psychotherapy supervision would need to be stopped/terminated, the matter to be brought to the notice of the IACP and the RCI. Either can terminate the contract upon any instance of boundary violations and update IACP about termination of contract. The stand of the IACP could be a) terminate the contract between the two parties if issue raised by any party (no details are required for this) or b) to suspend approval of supervisor/supervisee through IACP platform (requires written communication to IACP president/EC requesting the same and giving data-no third party report is required for this) or c) to cancel the membership of the person concerned (requires third-party documentation from involved institutes/enquiry committees/regulatory bodies). However, the IACP but would not be able to take any further action.

The supervisor must remember not to turn supervision into personal psychotherapy of the supervisee. The supervisor must be mindful of the possibilities of this occurring, especially when addressing supervisee experiences.

The supervisor must also avoid instructing, clarifying or deciding for the trainee therapist/supervisee and also avoid multiple supervision missteps. Literature can help reach one conclusion: that a beneficial process is the one not necessarily free of all mistakes by supervisors but where those are minimal (Shah, 2020).

It is also important to remember that the supervisory process is interactive, ethical principles are shared responsibilities, and that there are many sensitive domains of supervisor and supervisee relationship. Ethical guidelines are boundaries to be followed by both. The relationship has mutual responsibility. Exploitation, abuse and neglect are not so well elaborated tenets of supervision but are very important. Hence adequate conscious emphasis of being aware of these aspects as a part of the supervisory role is required. Supervision has to adhere to ethical code of conduct (Ladany, Lehrman-Waterman, Molinaro, & Wolgast, 1999).

Professional competence and integrity are expected from both, as both are qualified clinical psychologists (American Psychological Association, 2014). Commitment needs to be evident with respect to time, space for providing supervisee. Compliance with code of ethics as a trained professional is expected. Sexual or romantic relationships, dual relationships are to be avoided. The supervisor must be aware of professional boundaries at all times and look for boundary violations. In summary, the supervisor must be particularly mindful of dual relationships, keep proper documentation, descriptions (position); be aware of his/her duty to warn in case of violations of ethical principle, professional and personal dilemmas in course of supervision, the need and process of disciplinary action; and keep discretion (Dewane, 2007).

2.4 Termination

Like all professional relationships clinical supervision too has a point at which termination occurs. As a professional, the supervisor may spell out expectations clearly of the process of supervision and the supervisory relationship. Yet, there are many ways in which termination might occur. These include, a) premature termination-by supervisee/supervisor/case in question, b) termination due to unethical practice, non-compliance. Here, the supervisor could consider termination based on concerns regarding non-compliance to instructions, harm to client or unethical practice on the part of the supervisee, with respect to organizational ethics/practices, c) planned termination, based on the contract agreement between the supervisee and supervisor.

Supervision itself being an intense interpersonal relationship, termination of supervision needs to be planned. Clarity with respect to the reasons for termination and conditions for the same must be explicitly discussed by the supervisor and supervisee, with an opportunity for the supervisee to get feedback on learning and skills acquired.

Research on termination in psychotherapy suggests that a strong alliance is associated with a better termination phase, this is also true of the supervisor-supervisee relationship. Some important aspects to note in termination of supervision are: a) the process of termination must be communicated clearly, if not already stated in the contract, the time and reason for the same must be made clear to the supervisee, b) the specific number of sessions over which supervision may be terminated, particularly in a planned termination may be designated (e.g. 3 sessions/meetings) during which the supervisor and supervisee discuss termination and concerns/emotions concerning it (Levendosky & Hopwood, 2016). Proper documentation for supervisory discussions, and fees (if applicable) are to be maintained. This is particularly important in times of premature termination or when termination is initiated due to disciplinary reasons.

In the process of termination, the supervisor also provides feedback to the supervisee regarding the learning and skills acquired. Feedback must be constructive and contribute to the continued development of the supervisee as a therapist.

3.0 Eligibility

To apply to function as an IACP certified supervisor, a qualified clinical psychologist, with registration with RCI,

1. Should have completed at least 30 hours of clinical/psychotherapy supervision for on-site trainees/psychotherapists in any one setting
2. Must certify that 'I am not under investigation for any ethical violation"
3. Must be IACP Fellow or Professional Member
4. *5 years* of clinical experience practicing in India, with- out a gap of more than 1 year
5. Supervised 5 clinical psychologists or minimum of 30 hours of psychotherapy supervision for clinical psychologists (not on-site trainees)
6. Provided psychotherapy for a minimum of 20 clients with a minimum of 6 hours per client
7. Professional development initiatives must be evident. Three out of the following 5 criteria to be fulfilled:

a. Attended at least 1 IACP conference in the previous 3 years
b. Presented case or scientific paper specific to psychotherapy in a seminar/ conference
c. One psychotherapy workshop – attended/conducted
d. Publication as author or co-author in the domain of psychotherapy in any indexed and peer reviewed journals

8. Continuous practice in the past 5 or more years without a gap of more than one year

It is desirable for the supervisor to have a PhD in Clinical Psychology, and to have attended course(s) /workshops on psychotherapy supervision from recognized international bodies.

A supervisee, for the purpose of these guidelines is not a student/trainee, but a clinical psychologist, who has completed MPhil in Clinical Psychology

To apply for supervision from an IACP certified supervisor, a qualified clinical psychologist must fulfill the following criteria:

1. The supervisee must be practicing in India
2. The supervisee is treating clients in India online or in person

3. If not self-employed, those seeking supervision through the IACP platform must submit appropriate permissions from their organization along with the application. If satisfied with this, the supervisor may accept the applicant for supervision.

Application forms for potential supervisors and supervisees can be made available on IACP website along with procedural details, time-lines, fees, and disclaimers. List of approved supervisors can be updated periodically and general feedback forms be made available for further improvements in this mechanism.

Supervisor accreditation system through IACP website can be accessed by potential supervisors

to register themselves as licensed supervisors. Final authority for accreditation rests with IACP or its nominated committee. One could hope that presently countrywide, there would be at least 300 potential supervisors who could be interested in contributing to psychotherapy through this method. Assumption here is that at least 50% of faculty for RCI recognized M.Phil Clinical Psychology courses, would be eligible and interested to contribute through this platform. A number of private practitioners may also be eligible and eager to participate in growth of psychotherapy in India through these procedures.

4.0 Establishing a Contract

Psychotherapy supervision has been viewed as a professional relationship between a supervisor and a supervisee, with the intent of fulfilling certain specific objectives and needs (Osborn & Davis, 1996). Some of these processes which are an essential part of the relationship as well as principles that govern the relationship have been elaborated upon in the previous sections.

In addition, most professional bodies for Clinical Psychology discuss the role of a contract or agreement that further specifies this relationship. The need for a contract between the supervisor and supervisee has been referred to in the context of psychotherapy supervision to further establish structure and general agreement to the relationship between the two individuals. While the content of a contract may vary based on the setting, organizational practices and regulations, the contract conveys expectations the supervisor and supervisee have from each other in terms of committed time, learning objectives and rights and responsibilities of each other as well terms and conditions pertaining to ethical standards of practice.

The contract is also helpful in specifying time frame available, as well as conditions under which this may be terminated and provision for alternate contacts in case of emergencies or an event that requires involvement of any other organization or body.

By entering into a formal contract both supervisor and supervisee are also made aware of the purpose of the meetings and the ethical boundaries to be maintained (e. g. space, confidentiality etc.) (Ellis, 2017). Both must also be aware of their rights and responsibilities (see Appendix 1).

The contract for supervision is valid for a period of one year. During this period more than one case may be discussed in supervision. In fact, it is expected that early career professionals will be using this facility through the IACP platform hence discussion of more number of cases under one supervisor will be beneficial to the profession. Termination of supervision must be planned ahead and ensure welfare of the psychotherapy client as well as the psychotherapist. The contract entitles the therapist to a minimum of 18 supervision sessions in a year, i.e., an average of 2-3 hours per month. It is recommended that the initial month's frequency may be kept as high as possible.

The contract must contain details like names of supervisee and supervisor, type of supervision, goals, rights and responsibilities of the supervisor and supervisee, and duration and frequency agreed upon. It must also show that both parties are aware of IACP disclaimer in this arrangement. Upon submission of a signed copy of the contract to IACP and upon approval his professional arrangement could be activated.

Currently, IACP will not place any restriction on number of supervisees that can be accepted by a supervisor, nor will it mediate if a supervisor refuses to accept a particular supervisee. Supervisees are encouraged to work with one supervisor at a time.

5.0 Conclusions

The guidelines proposed above are probably a completely new territory in psychotherapy in India. This is an initiative outside of academic and training institutions yet attempts to address competency needs of psychotherapist. The content in this document has been developed for qualified clinical psychologists with the intent that it could bring more even delivery of psychotherapy services to Indian population. Nevertheless, IACP is extremely aware of the acute dearth of psychotherapists in the country. In the imminent future, IACP may perhaps consider ways of being more inclusive in the eligibility criteria of supervisees, once the usefulness of the above framework is established. Moreover, with

the national-level need for more training and supervising faculty (due to an increase in courses for clinical psychologists), brief online courses for educating supervisors can also help fill-up the gaps in psychotherapy training across the country. Internationally, inspiring content is already available for this (Watkins, 2012). More differentiated supervision formats can also evolve once uniformity is ensured for all early career psychotherapists. Since the 2-year professional training course for clinical psychologists rests on the principles of integrated psychotherapy (Shah, 2019), unlike international trends, higher level of mastery in unique psychotherapies could develop later on in the career. Apart from integrated supervision, future professionals may benefit from multiple discourses on psychotherapy supervision. Future may also bring credit-based system from RCI & IACP to streamline supervisees and supervisors further.

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Appendix 1

Rights and Responsibilities of The Supervisee and Supervisor

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Supervisor's Responsibilities	Supervisee's Rights
1. To express concerns if any regarding the work by supervisee 2. To provide constructive feedback regarding the therapeutic work and learning. 3. To observe work carried out by the supervisee and take supportive or corrective action as needed. 4. To ensure ethical practice and professional standards. 5. To ensure that supervision is carried out and tasks and goals are fulfilled as agreed upon 6. To maintain a file or documentation regarding supervision including matters related to development and training. 7. To clarify to the supervisee his/her role and responsibilities (this is to briefed at the beginning, with reminders as needed throughout) 8. To monitor and assess performance of the supervisee, after setting the standards expected. 9. To be aware of the tasks being carried out by the supervisee 10. To address any problems and concerns as they arise and impact the performance of the supervisee. 11. To provide adequate support to the supervisee in achieving professional and personal development plans.	1. To get uninterrupted time in a safe, space with privacy. 2. To get the guidance of the supervisor as well attention during supervision. 3. To get feedback of the process of learning and psychotherapy practice. 4. To discuss and be able to set some part of the agenda for supervision. 5. To ask questions of the supervisor. 6. To express one's ideas in supervision, including challenge guidance at times and in a constructive manner. 7. To have one's learning needs fulfilled as well as that of professional development.

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Book Review

It's Okay: To Reach Out for Help, Malavika Kapur (2020), Vitasta, Ansari Road, New Delhi, 162 pp. ISBN9789385473943. Rs.160

[1]S. P. K. Jena

In contrast to the serious writings on counseling, this book can be read with utmost ease, almost like a novel, at a stretch. As the author says, it is indeed about 'counseling by the people themselves'. It focuses on one of the much-needed area of understanding of personal distress and help-seeking behaviour. The presentation of cases across life span makes it an interesting read.

Lodged on the backdrop of the pandemic stress, the opening chapter unfolds the narratives of a distressed mother, who desperately appeals to her COVID-infected daughter, living in a foreign land, to seek help from others. This is an illustrative case of people, who are unwilling to seek help from others even under the most helpless state of their distress. The narratives effectively paint the agony of a mother, sitting hundreds of miles away to save her daughter by just motivating her to take help of others. In the end, the daughter admits, that it is okay to reach out to others for help. The lesson that she learned for life was an understanding that it is okay to reach out for help, which is the title theme of this book… She confesses, "*Although Corona brought a mask on my face, it has erased my masked egocentric views to look beyond*" (p. xxi). The use of the clients' narratives at many places has made the book more interesting. The individuals' natural capacity for seeking help, and helping others at the time of distress, have been considered to be pivotal to the cure of many disorders. In fact, the need for counseling has enhanced in the current scenario, where a large section of humanity experiences the deadly pandemic, Covid-19. The author's '*Swiss-knife*' approach to counseling is an apt figurative analogy for the need of counseling as a fantastic 'first-aid' in a world, torn by emotional distress.

The author rightly states, *"We all are marooned in our own little islands"* (p. xxii), where seeking help has become so natural. She advocates and sensitizes that, counseling be used as a 'survival skill'. Highlighting the need for human care and compassion. Apart from the current pandemic, there are concerns for climate change, the nuclear disaster and the gun control. It effects of lack of human care could be disastrous. It explains how pivotal is the role of compassion in building a peaceful world.

The chapter on the *Psychology of East and West* is a precise comparative analysis of some of the Indian thoughts on counseling and Western schools of psychotherapy. While speaking on the indigenous knowledge of counseling, she cites the works of some psychiatrists, who speak of the 'inapplicability' of the western constructs of psychotherapy in the Indian context, which could be misleading. In fact, with changing time and globalization, the psychological boundary between East and West have become much more permeable than before. Evidence-based interventions bear the proof that the so-called 'Western' modes of psychotherapeutic intervention could be as effective as the indigenous ones in several conditions depending on the skill of the counselor and mindset of the counselee. In fact, the same criticisms leveled against psychoanalysis calling it as 'premature crystalization of spurious orthodoxies, at worst, a pseudoscientific doctrine" Eysenck, 2004, p. 208), can be leveled against some of the indigenous approaches as well.

The frames of mind have evolved so much across time and space that, the new generation sees very little distinction. Novelty, economy, and evidence-bases have attracted the naïve counselee more than the homegrown methodologies of care, as such. This has happened, both in the East and the West. Sri Aurobindo's Integral Psychology, Men Tsee-Khang's Buddhist Psychology, and those of the therapies of West such as client-centered or psychoanalysis have the same relevance depending on the acceptance of the individual client. Yoga, for instance, is helping millions of people around the world. People have embraced

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it as a way of life. With the great flow of time and exchange of wisdom, the barriers are falling apart. Although, the author has pointed out the failures, of dynamic therapies in India, as a case, this is not a unique phenomenon. The same has happened around the globe relatively new approaches have taken their place. Now the approaches are multiple and the choices are many.

Drawing insight from the ancient scripture, *Kashyap Samhita,* the author suggests that 'being observant' is one of the core clinical skills for the therapist. She has effectively explained the issue by illustrating a few cases. A discussion of cyber addiction sensitizes the need for a child-centric approach.

The author adopts a life cycle approach here, highlighting the importance of developmental tasks during different stages of life with reference to the characteristic needs, and stresses. She also explains the role of the sixteen *samskaaras* for fulfilling these needs. Throughout this work, she has tried to orient the readers toward the holistic aspect of human development. This is meaningful for the parents as well as practicing counselors. In fact, this is one of the most engaging sections of the book. Although, a complete life cycle approach, including all sixteen rituals such as *sodashakarma*: two at the prenatal stage (*garbhadhana, sheemantham*), and fourteen at postnatal stage (*jathaka, namakaran, annaprasha, chauda or keshakandana, karnaveda, upanyana, akshrabhyasam, vivaham, gruhastashram, vanaprastham, and sanyas*), a section of this is discussed. This may be due to its redundancy. However, the discussion serves as a roadmap for the subsequent chapters written from the same perspective. Here, she has passively questioned the practicalities of the concept on the ground of changing demands of life. Even a critical analysis of the contemporaneousness *samskaaras* would have been meaningful.

In the chapter on *childhood*, the author formulates a basic assumption that the young child is a 'scientist in the crib' and that, "*All children are born gifted with creativity and it is the adults who come in the way of their overall development because adults need to teach them everything*" (p. 20). The statement appears to have poetic justification, but undermines the nurturing role of the parents in unfolding the potentials of the child.

She describes healthy rituals that provide psychological and physical support to the pregnant women and maintain their hygiene at conception and thereafter, maintaining a positive attitude until the baby is born. In this context, she explains about the *garbhadhaana, pumshavana*. The latter is about the rituals to have a male child for the progeny (Vardhan, 1990), which is a questionable practice. In fact, the Vedic scholars of India were careful observers. They have offered several recommendations regarding pregnancy (Rakhshani et. al. 2015).

She shares the ancient wisdom on breastfeeding and oil massaging for the high-risk babies. Now this is used even for healthy newborns across cultures. A considerable section of this chapter is devoted to mental health and *trigunas*. Parents are advised how to deal with psychological problems of children who had to change their schools and in simple language she provides a brief description of the common childhood disorders, briefly suggesting how such problems can be treated well using psychosocial methods of counseling. She also advocates that psychodynamic, humanistic, or behavioral approaches which are useful for the treatment of these developmental disorders. Towards the end, she provides some case studies, which are quite engaging and meaningful. Illustrating counseling sessions with a mother, she advised how to quarantine herself for some time in order to relax and engage other family members in childcare. She calls it 'downtime'. Cambridge English Dictionary defines this as '*a time when the person can relax*', a concept, which was germane to most practices of counseling. The author has effectively applied the concept to child rearing. Many parents experience child rearing stress as they fail to learn the art of down timing, delegating the task to others in the family, which is an art. The client not only did it successfully but also narrated how she has shared these tips of child rearing to others. This spontaneous generalization is one of the best measures of success of this counseling.

The second case, which she illustrates, was that of a victim of post-traumatic stress. In the family, the daughter commits suicide and its impact is seen on the other seven-year old daughter, who is demanding and disruptive. The author offers counseling to the family, advising the parents to give-in to her demands sometimes and spend more time with her. It led to improvements in crying spells and bouts of sadness.

The third illustration was about an instance where a group of 50 children on an excursion with their teachers escaped from the wrath of Tsunami during 2004, at the Vivekanada Rock Memorial, Kanyakumari. The narrative sensitizes the readers about the trauma of a natural disaster.

The subsequent chapter '*Children's Session by Children*' is a very special one, which draws attention to the craft of organizing sessions in a group setting, which is a self-healing session by the children themselves through play, and other activities. This was conducted in a Child Guidance Clinic (CGC) under the supervision of two psychologists and nine volunteers. The themes included socialization, communication, expression of wishes and dreams and learning new skills. This would be of much professional interest for mental health counselors.

The next chapter on *Adolescence* starts with the statistics of the prominent mental health needs in the country. The author suggests that most of these problems could be solved by encouraging empathy, inculcating morality and social behaviours. The adolescents' infinite capacity for compassion can be used as an asset. Time setting for limiting anti-social behaviour was considered to be an essential element in such interventions. In this section, the author also speaks about the characteristic stresses that could influence the mental health of the adolescents, although some behaviours and emotional problems could be seen as a continuation of problems of childhood.

Here, she focuses on *samskaaras* which include celibacy, learning, and discipline, although, described them as 'elitist' and 'brahminical education', even if accepted as a way of life in *gurukuls*, which is so rare to find today. At the same time, she brings out some of the contrasting tribal cultural practices of South and Northeast India. At this juncture, the narratives appear unconnected to the original theme of counseling and human development.

However, equally absorbing was her illustration of counseling of an 18-year-old girl from a broken family, living in a sheltered accommodation on the backdrop of Covid-19 lockdown. The counseling session was effective in neutralizing her suicidal ideas, and feeling of inferiority. Finally, the client narrates how has she overcome her loneliness by engaging herself in reading, learning martial arts as well as preparing for her academic presentations in a novel manner, showing personal creativity. This is a story of transformation of a timid girl who was adopted by a family and then abandoned and almost forced to live in a paying guest accommodation, escapes a rape attempt by her uncle and the circumstances forced her to live in a sheltered home, with the other girls who were strangers to her. Her narratives make it an interesting case for the readers to learn about how to help a client to live in an unlivable situation in spite of the worst experiences of life. Finally, the girl decides to become a counselor to heal people who are sad, and stressed like her, and liberate people from psychological trauma. This is an illustrious example of stress counseling.

The chapter on *Adulthood* was examined from the perspectives of *saptapadi*, the most part of which was encapsulated in the discussion of *vibhaha* (marriage), viewing it as the gateway to the eternal friendship of two souls, solemnized by Vedic Shanti mantras and happens in every Hindu wedding. Oath is taken in front of the fire and in presence of the relatives, for remaining together in this life and beyond. This is the essence of a meaningful life. The spouses take seven vows: to provide food (provision and nourishment), strength (health), wealth (prosperity), happiness (sacredness), and children (progeny). It is seen as moving toward eternity after fulfilling the mundane responsibilities, one of the most uniformly celebrated *samskaaras* in India. Here, she provides illustration of the case of a severely depressed married young man. He was assigned home works such as writing down his small

achievements, happy memories, taking pride in good work, and also journal writing in order to overcome his mental health problems.

The second client, a man in his 30s was cured of Covid-19, who was counseled successfully to facilitate his post-traumatic growth. He was motivated to write about his personal experiences pertaining to the treatment of COVID-19, whereas he had no taste for books or writing.

In another group counseling session for parents in the age group from 40 to 60 years, the author discusses the general problems of children and on varied issues such as the education system, about sibling rivalry, competition and comparison, the role of punishment, management of screen time and so on and finally receives the positive feedback on these sessions.

The chapter on *Old Age* begins with a discussion on contrasting ideology about the purpose of life in the West and East. The Vedic concept of *sanyasa* and *vanaprastha* has been highlighted. Sharing her personal experience at Rishikesh, she explains the characteristic issues that crop up during old age. Here, she adds the excerpts of a counseling session with an elderly woman, Radhamma, who lost her husband early when her children were young and were feeling hopeless, even staying close to her younger married daughter. The counselor's intervention could kindle in her the motivation to again engage in the spiritual practices and cooking, which she liked very much as a housewife. The next case Vedavalli (89) had adjustment problems in her daughter's place, she was brought there to protect her from COVID-19. Counseling helped her to overcome her resistance to accept her stay in her daughter’s place.

The importance of reassurance, suggestion, environmental manipulation, parent spousal training as well as role of encouragement, praise, emotional abreactions and limit setting, were discussed with reference to social support. She has illustrated the case of an 11-year old child, who repeatedly falls ill due to psychosocial reasons.

She provides an account of her spiritual journey. The wish-fulfilling tendencies were considered as the principal 'cause' of suffering. People are unhappy as they do not get what they desire or because they are forced to live in certain situations, which they do not want. This is an antithesis of stress-driven action model, which helps the individual to strive for achievements in order to get rid of frustration, which itself is a never-ending process. In fact, these two models of unhappiness have substantial commonality as both of these contain the ‘desires' at their roots. Drawing insight from Bhagwat Gita, she explains that the chain of emotions ultimately leads to destruction. In very simple and down-to-earth manner she narrates the significance of detachment and renunciation. The author shares the belief that detachment prevents our vision from getting clouded by frustration and disappointment and that client-therapist relationship could be seen from spiritual angle. Referring to the method used by a spiritual guru, she further explains how by arousing the sense of compassion one can overcome the resistances of a client (disciple). In this case, he breaks down spontaneously and explains to his guru about his cruelty to his spouse. These narratives urge the counselors to introspect and understand the client from a spiritual angle, who is in need of the counselor’s services.

Quoting from Buddhist scripture, the author further states that it is not always necessary to know the causes of distress. The counselor may start the remedy just by trying to treat the symptom itself. Although the approach sounds appealing, this may not be true for all cases. Any symptomatic treatment could be temporary and even may be counterproductive for some cases, if these are functionally connected with specific antecedents (causes). The author claims that the insights and practices of Indian spirituality are not for the relief of psychologically sick individuals but intended to assist persons who are healthy by average western standards and those who seek 'liberation'. *mokshya* is the ultimate aim of all Indian spiritual pursuits. *Patanjali* does not recommend the spiritual practice for the people who are diseased, dull, careless, lazy, or mentally unstable, and who show anguish, despair, nervousness, and hard breathing. Although, empirical evidence reveals that yoga could be beneficial for all. Buddhism

preaches about the difficulty in escaping from this phenomenal world of attractions and infatuations. Here, the means of transcendence would be compassion for others, avoidance of extremes, and engaging in meditative practices. Her examination of the concept of *purusha* (qualilityless awareness) and *prakriti* (matter), brings out the essence of Samkshya philosophy, which states. The *purusha* is tainted by *prakriti* in such a way that the mind falsely believes itself to be a part of *purusha*. This is ignorance. Thus the aim of (counseling) should be to be the liberation of *purusha* to stand out, untainted by *prakriti,* as ignorance is the cause of all distress. This explanation brings out Sankhya Philosophy as a guiding force in psychotherapy, the analysis, which is rare to find in the contemporary practice of counseling.

The author also discovers polarities between the objectives of (Western) psychotherapy and Indian forms of psychotherapy, which is inspired by spirituality. The former aims at strengthening the ego whereas the latter is about disengaging it from attractions. This is the practice of *anasakti*. In the practice of psychotherapy Indian setting a large group of spiritually oriented clients can be dealt with effectively using the above approach from the scriptures. Many of these principles are inherent in yoga. The author further contends the idea that Indian spirituality takes the client away from worldly involvement. One does not have to avoid social contact for spiritual practices. Psychotherapy aims at strengthening the ego, while the Indian spiritual practices aim at disengaging with the ego. The former is meant for the emotionally disturbed whereas the latter suggests that the mentally unstable should be cautious. The spiritual path is not for everyone. However, she strongly suggests that spiritualism could be effectively incorporated into clinical practice. Certain psychiatric problems may be solved better by using certain yogic techniques instead of psychotherapy as such. However, a word of caution is that Indian spiritual tradition is itself pluralistic. Some ascetics like Carvaka have advocated materialism as much as the Western thinkers did. In Indian spiritualism itself there are many diametrically opposing views. It is said, "*ekam sat bipraah bahudah vadanti.* Truth is one, but the wise people describe it differently. This is core of pluralistic thinking. In the concluding chapter of the book, the author finally states, spiritual practices are not just for the treatment of disorders. This has wider implications.

Counseling continues to remain one of the most fascinating subjects, receiving wide scholarship, both academic and non-academic. The common theme that runs through most of these chapters is the indigenization of the practice of counseling. Her arguments are remarkably down-to-earth.

On the whole, the book is scripted in a manner to reach even those readers, who are oblivious of the art and craft of counseling. The key ideas are presented with great simplicity, in common man's language. The style is highly persuasive. Therefore, this can be recommended for mental health professionals, students, counselors, and also parents to read and make use of the indigenized ideas of humane care.

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Book Review

Covid-19 In India: Problems, Challenges, And Strategies. Editors: Swaran Lata, Shikha Verma & Shobana Joshi. New Delhi: Global Vision Publishing House. ISBN:978-93-90423-51-4. 2021 Edition. Price: Rs. 1950/-

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The book is among one of the many such publications flooding the academic markets in last two years. If one book wishes that the Pandemic "never should have happened" (MacKenzie, 2020), another "panics" the event that "shook the world" (Zixek, 2020). When one sub-titles "what's gone wrong and how to stop it again (Horton, 2020), another forewarns its "consequences for the decades ahead" (Hill-Landolt & Roberts, 2020). Indian authors are not far behind. Among the dozen editions perused by this reviewer, there are low-cost paperbacks for laypersons on COVID-19 in a regional language. There are costly high-end books covering epidemiology pathogenesis, diagnosis, and therapeutics. Some books claim to "separate fact from fiction" (Mahapatra, 2021), insisting "what you need to know" (Parikh, Desai, & Parikh, 2020) or explaining how pandemics have "shaped India and the world" (Tumbe, 2020). Some authors sell their books on COVID-19 by pandering fear or making it sensational. Others use intimidation. Indian psychologists and mental health experts have also produced a spurt of books on this subject. A conservative estimate shows at least 100 titles in the genre of fiction, non-fiction, manuals, or textbooks are available on CORONA-19 by authors across languages in our country.

The preceding raises the question of whether there is a need for one more book on this theme. However, as the editors claim in the "Preface," the unique selling proposition for this book is the *Bio-Psycho-Social (BPS) Model* that it seeks to espouse. Traditionally, the reductionist, narrow bio-medical, or general systems perspectives are used to understand the pandemics. An advantage of the BPS model is that cure, recovery, and good health are not entirely in the hands of medical experts alone but also in the patients themselves or their families and community as part of a multidisciplinary team. BPS-Spiritual Model could have been preferred for this book (Galbadage et al. 2020; Taukeni, 2019). Nonetheless, this review is constrained to adopt the BPS Model's five sections as follows in the book: A. Biological Aspects; B. Psychological Impacts; C. Socio-Economic Impacts; D. Problems faced during Lockdown; and E. Measures to combat COVID-19.

A. Biological Aspects

This section on biological aspect includes four chapters on COVID-19 Pandemic related to their origins, symptoms, prevention, and treatment; overview of the SARS-COV2 virus; disease prevention and treatment; medical aspects; and the second wave.

While the first three chapters under this segment address technical details, one would have expected greater relevance in the chapter on the second wave. Instead of stopping short of highlighting only symptoms, information regarding COVID-19, news reports on second wave scenario in India and the problems faced by health sector during this wave, more emphasis was expected in bringing out the differences between the first and second waves.

A sketchy account of psychological issues, poverty, and unemployment during the second wave is given. Issues related to reduced supplies of essential commodities, increased deaths (especially in younger population), identified evolution of new mutant versions of the virus, faster speed of spread, allowing some ill-equipped state governments to take their own leads (unlike during the first wave), reducing the role of high-tech institutions to advisory than implementing agencies, allowing mass gathering in the name of religious congregations to go unchecked were some characteristic features of the COVID-19 second wave in the country (Asrani et al. 2021; Kar et al 2021). Further, this chapter has missed the opportunity of mentioning the possibility of a third wave. Several multi-stage logistic models have estimated the possibility of the next wave with

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new variants of the virus-Alpha, Beta, Gama, and Delta in the offing before the end of 2021 (Parveen. 2021; Rhaj, 2021).

B. Psychological Impacts

The seven chapters in this section covering topics like personality profile of frontline warriors, experiences of lockdown, mental health problems, emotional intelligence and adjustment problems, stigma and discrimination, mental attitudes of youth, and explorations on their critical behavior and imposter syndrome. Out of them, chapters 5 (personality profile of frontline warriors), 7 (emotional intelligence and adjustment problems), 10 (mental attitudes of youth), and 11 (explorations on their critical behavior and imposter syndrome) are data-based empirical reports.

The COVID-19 has forced psychologists all over the world to redefine their daily clinical practices, procedures, and service delivery strategies. There was increased demand for Psychological First Aid, Online Life Skills Training, Need for Creation of Help Lines, Tele-assessments, Diagnosis, Therapy and Rehabilitation. Face-to-face contacts diminished or went extinct. Several new issues related to online certification, their security, integrity, legality, reliability or validity, cheating and fraud during test-taking, privacy, maintenance of anonymity and confidentiality during virtual testing emerged. The authors of related chapters have conspicuously missed the bus to spotlight on these issues (Gowda et al. 2020; Ong, Ragen, & Aishworiya, 2020).

C. Socioeconomic Impacts

The four chapters in the third section of the book address issues like reverse migration, psycho-social challenges of marginalized communities-migrant laborers, the burgeoning of online education, and the nutritional consequences of Covid-19 in the country. The chapter on "Reverse Migration," for example, could have relied more on citations of Indian authors, empirical papers, or experiences available as published case studies rather than as a long narrative with western writers. Conceptual papers on the phenomenon of migration and reverse migration, factors causing reverse migration, economic implications, their advantages and disadvantages at local and international levels could have been roped in during the preparation of this manuscript (Dandekar & Ghai, 2020; Menon & Vadakepat, 2020).

The inclusion of a theme on nutrition in the context of COVID-19 (Chapter 15) deserves appreciation. The Pandemic is indeed a severe blow for our country on the dwindling scale and declining trend in the Global Hunger Index between 67th rank in 2011 to 101st position in 2021. The prevalence of wasting and stunting for children under five in almost half of the surveyed states is a dismal scenario that requires mention.. A remarkable experience during the COVID-19 is the several myths and misconceptions on nutrition being circulated all around. There is much fake information being circulated in the digital media claiming that one can contract the illness by consuming certain foods or that particular foods-garlic, bitter gourd, turmeric, ginger, lemon, or bananas can save us from the killer disease. Such details are missing (Daria & Islam, 2021; El Ghoch & Valerio, 2020)..

D. Problems faced during Lockdown

Although this section appears to be an extension of the preceding segment on Socio-economic Impacts, the editors have some reason to title this portion separately as related to Lockdown. Five out of the eight chapters are data-based original research articles targeting working-non-working women, early childhood development, and homemakers. The other three chapters are essays on women, children, and the elderly.

A more critical evaluation of the "Work From Home" phenomenon about how they upset the work-life balance, sleep-waking cycles, time management, or increased social isolation could have been attempted. Further, its advantages of being close to family, avoiding the hassles of everyday transport to office, or change in lifestyle are not mentioned. This section had the opportunity to address few more vulnerable populations of society. Persons with mental disabilities, particularly those with intellectual

and developmental disabilities, the LGBTs, pregnant and post-partum women, gifted and high-ability individuals, or the elderly, were worst hit by the Pandemic. They suffered risks and vulnerabilities for want of being understood. The changed corona hygiene and etiquette, increased screen time, their caregiver's job loss, they becoming victims of bullying, hate crimes, domestic violence, abandonment, and human trafficking are not mentioned emphatically (Venkatesan, 2020; 2019).

Sections B-D cover extensively how the Pandemic impacts the individual. A corollary to this is how it impacts society and how society responds to it. It is noted that there can be knee-jerk immediate, spontaneous reactions or long-term ironed-out delayed rational responses to overcome the catastrophe. The role of religion and rituals related to death, dying, bereavement and mourning, the conspiracy theories often mixed with bigoted patriotism, coronaphobia, and national self-glorification, the resurgence of pandemic literature are few societal reactions to the COVID-19 crises. Such dimensions are missed out in these narratives (Arora et al. 2020; Hamid & Jahangir, 2020; Venkatesan, 2021).

E. Measures to Combat COVID-19

The book's last section carries seven chapters, presumably on remedies to combat COVID-19 through physical or mental health strategies, application of digital technologies, and proper nutrition before elaborating upon government initiatives or measures to combat the disease. There are two chapters (24 and 28) on mental health strategies with poor coordination between them. Similarly, the two chapters (15 and 26) could have emerged better since both deal with nutrition-related facts. Chapter 27 on Government Measures makes dull, repetitive, and monotonous reading. The narrative could have been more interesting by highlighting policy decisions, economical packages rolled out for beneficiaries, various advisories, and complaints redress forums initiated. Further, periodic virtual meetings and media coverages, government funding, announcing relief packages, fast-tracked medical services, and health coverage kick-started the CORONA virus vaccination drive, supporting innovative solutions through startups and others.

F. General Comments

Out of the 29 chapters in the book, 9 of them claim to be *data-based empirical studies*. Chapter 17 gives an impression of being one among them but soon ends in a theoretical narration. It appears that no pre-set format for these data-based research papers was given to prospective contributors or not strictly followed. While headings like introduction, review of literature, rationale, objectives, method, results, and discussion are typical to most (but not all) of these papers, the details on operational definitions, research design, hypothesis, piloting, sample or participants, measures, tools, or instruments, procedure, data collection, statistical analysis or limitations are missing for most of them

A standard or uniform style could have been in place for the in-text citations and references at the end of each chapter. Large paragraphs running through pages (Example: 182-187) without citation or cross-reference, the many typographical errors and incomplete references, needed copy-editing. If APA-7 was the adopted format, the goof-ups at several places, citations of the same author in a chapter as "a" and "b." needed scrutiny. Some chapters are overloaded with reference sources from gray literature (newspapers, the internet, and websites) and only a few peer-reviewed research publications. Missing capitals for proper nouns leave a jarring effect. Titles of journals are given in full for most chapters and in abbreviated format for others. The source of table one one chapter is not given.

On the whole, in sum, “COVID-19 IN INDIA" is a thought provoking, interesting, and topical collection of writings. In the first place, it has a pleasing appearance, bold and readable fonts, a convenient page turning and grip factor. By way of content, the academic book of edited collections is a needed add-on to the growing literature on the subject in India. Every chapter has an introduction, argument, summary, and conclusion. As a scholarly contribution in the genre of non-fiction, the book combines both primary and secondary sources of information on the chosen theme. The BPS Model advocated by

the entire narration is counter to reductionist narrow bio-medical perspectives on the Pandemic. The addition of spiritual dimension would have been welcome. This is recommended reading for lay persons, students and professionals of health care, or rehabilitation sciences. The book can to be preserved for posterity-long after the COVID era-as a grim reminder of the challenging times humankind has gone through.

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Book Review

COVID-19: Epidemiological And Mental Health Challenges. Authors: R. C. Jiloha & J. Kishore. New Delhi: Century Publications. ISBN:978-81-950016-3-7. 2021 Edition. Price: Rs. 450/-

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The book under review is divided into eleven chapters beginning with an introduction to or about the pandemic. This is followed by tracing the pandemics through human history, starting from the great American Plague of 430 BC. The mysterious origin of the present-day COVID-19, infection and transmission, diagnosis, spread, and epidemiology are explained. Both the preventive and curative aspects of the pandemic is addressed. A separate chapter focuses on emotional epidemiology and infodemic, which is unique to the contemporary scenario. Public health, especially mental health, against different cultures is targeted before surmising what could likely be the future of the pandemic.

The *Introduction* covers details on what a pandemic is. COVID-19 is explained as a pandemic with details on how it spreads. The implications for mental health are mentioned. The authors could have clarified introductory terms like pandemic against related words like an endemic, epidemic, or outbreak. Readers need to be clear about how these terms are different. A note is given on how "the activities of a religious sect (was) alleged to have intentionally spread the infection of coronavirus by not cooperating with the public health authorities in adhering to the preventive measures." Surprisingly, no mention is made of similar and bigger congregations at Kumbh Mela, wherein all COVID-19 protocols were tossed away by over three million pilgrim super spreaders at Haridwar, Uttarakhand, India, around the same time. Presumably, the stance of the believers was that "faith in God will overcome the fear of the virus." No mention is also placed on record about the similar flouting of the pandemic norms during elections in five states around the same time.

The second chapter on the *Pandemics Through The Human History* attempts a narrative from the Athenian Plague (430 BC). The timeline of historical pandemics could have been visualized and presented in infographics to make it more manageable and exciting to read. There are perils in attempting a posthumous diagnosis of the Athenian Plag now as possibly an Ebola virus. Posthumous diagnosis is giving a modern name to an ancient or bygone occurence, often separated by several centuries.

What are the lessons learned from the pandemic history? One is that when blood or blood plasma from patients already recovered from the Spanish flu was transfused to newly afflicted people, it proved to be an effective treatment. Currently known as "convalescent plasma therapy," this procedure is being tried out with similar success with the coronavirus. The same trials were also made with the Sars epidemic in 2002-2004 and the recent Ebola virus outbreak in 2014-16. Experience has cautioned against using ASPIRIN to treat Corona as with the Spanish flu, wherein worsening of symptoms and even death were reported. Although the WHO was clear in stating that there is no proof of any drug that can be used to treat coronavirus, sadly, several deaths have occurred owing to misuse of drugs, self-medication, or the use of medicines prescribed by alternative systems of medicine (Bassareo, Melis, Marras, & Calcaterra, 2020).

From the history of pandemics, it is learned that cities that had enforced quarantine snd social isolation to fight against Spanish flu hundred years ago had fewer deaths. Although there is temporary depression in the economy, such public health interventions have historically helped the economy increase employment and productivity in the post-pandemic period. This is proved in countries like Taiwan, South Korea, and Singapore, which took very restrictive measures at the beginning of the pandemic compared to Spain and Italy, which took longer to contain the virus.

Another lesson learned from the history of past pandemics is that names do matter. Contrary to popular belief, the Spanish Flu of 1918 did not originate in Spain. It likely got its start at a military base n Fort Riley, Kansas. It was named

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so because the media in Spain put out the first news about it when writing about it was banned in other countries. Closure of schools, theatres, and libraries, quarantining, isolating people from one another, calling off major sporting events, and the public is urged to wear masks were enforced even then as is being done now. Labeling, nick-naming, misinformation, scapegoating, shunning, blaming, fault-finding, rumor-mongering, victimizing, and witch-hunting the infected, which used to happen then, continues to be a matter of social concern even now. These observations made in the preceding paragraphs deserve a place somewhere in this book.

The third and fifth chapters covering different aspects of Corona from virology, infection, transmission, phylogenetic and clinical aspects make relatively heavy reading material for non-medical students. Of course, credit is to be given to the authors for going through this needed narrative in the manner most suitable for beginners. Terms like what a virus is, their types, endocytosis, fomite, zoonosis, airborne and droplet transmissions, laboratory investigations, herd immunity, and flattening curves are explained clearly. At this point, the reader feels that including a bibliography, subject-index, and alphabetical glossary with helpful, informative, and concise information in the book would have been helpful. Thankfully, there is a section on abbreviations. Non-medical persons are mortified by medical nomenclature.

The sixth chapter is about vaccines and other preventive strategies. This chapter gives an overview of vaccines for infectious diseases and the mechanisms underway to develop one in the ongoing pandemic. A highlight of this chapter is the reiteration of preventive practices through corona etiquettes by face masking, hand hygiene, social distancing, and avoiding overcrowding. Lay person's doubts about the multiple uses of vaccines, fears of getting Corona after vaccination, the ideal gap between vaccines, and side effects of vaccines could have been mentioned. A few more questions like vaccine hesitancy, why some vaccines need boosters, why vaccines are not cent percent effective, is there any hidden agenda behind vaccines to create another drug-dependent sick society, or such burning issues could have been raised in the context of vaccination. The WHO has proclaimed "Immunization Agenda 2030: a Global Strategy to Leave no one behind" is not mentioned.

The chapter seven covers quarantine, social distancing, and isolation as preventive steps to break the chain of transmission during the pandemic. Domestic or international travel restrictions, public health surveillance, school and workplace functioning must be regulated or controlled by invoking the appropriate legal provisions. Despite pervasive resistance, many of the existing archaic laws to this effect had to be changed using ordinances for the public good.

The chapter on *Emotional Epidemiology, Infodemic, And Livelihoods*. A bulk of the narration in this chapter is devoted to how the pandemic has caused an enormous toll on the psychological status of individuals in the community. They highlighted their feelings of stress, fear, stigma, burden, confusion, anxieties, depression, maladjustment, loss of mental health, and well-being. Human fight or flight responses to felt frustrations during the pandemic are mentioned. A relatively new coinage infodemic is invoked to highlight the role of real-time or virtual in this information age. Another subsection briefly covers the impacts on livelihood.

The chapter entitled *Public Health Interventions And Mental Health*. The pandemic's psychological impacts, especially following infection, hospitalization, isolation, and quarantine resulting in delirium, depression, and anxiety, are explained. Those with preexisting neuropsychiatric conditions on regular prophylactic medication are even more vulnerable given the need to continue their treatments, whether there is a pandemic or no pandemic. Otherwise, there are risks of symptom worsening, possibly even suicide or homicide.

The chapter on *Culture, Mental Health, And Covid 19*. Examples of Ebola outbreaks in African continents are given. This chapter could have been abundantly reinforced with indigenous materials. The pandemic has brought forth many cultural icons to the forefront as a messiah for cure or line of treatment. Whether rephrasing the ongoing crises as punishment for sins by supernatural forces, they are philosophizing death or offering "cures" to improve resistance (Daria &

Islam, 2021; Lendave, 2020). There was scope for the elaboration of such issues.

While it is appreciated that chapters nineth and tenth cover the impacts of the pandemic on individual psychology in terms of their felt stress, burden, anxiety, depression, there has been little attempt to outline what sociological effects can occur on society as a whole is underplayed. Thus, there can be individualistic as well as collectivistic responses to the pandemic crises. There is enough literature on a community's "catastrophic reactions" (social absurdities) due to a familiar unfathomable foe in the pandemic. Some strange or unique buffering mechanism of coping has evolved during this pandemic at individual and community levels unique to this digital age. Whether through organizing mass prayers, lighting lamps, clanging vessels, sharing Watsapp notes or jokes, the pandemic has also whipped up superstitions or stigmatized some sections of society. Heightened beliefs in astrology, soothsayers, doomsayers, scaremongers, crystal gazers and their likes are heightened-but, not noted anywhere in this book (May, 2019; Fitzpatrick, 2010).

Prejudices, stereotypes, myths, and misconceptions emanate as helpless reactions even from highly educated, emotionally drained, subjugated, or threatened sections of society. Pandemic brings into limelight the inequalities in society against minorities based on caste, race, or religion. At the same time, some not-so-literate societies have stood up strong and resiliently against the tide of the pandemic.

On their part, the pandemics shape family, social (death and solitude of the dead), political (as shown by conspiracy theories and contrived events with a show of constructive patriotism and national glorification to fight the perceived crises), legal, digital (with more negative than positive posts), moral (proliferation of misinformation by social media with dangerous misleading narratives), economic (on household spending, consumption, consumer behaviors or business and stock markets related to tourism, retail, and education), and religious institutions (Green et al. 2021; Yoosefi-Lebni et al. 2021; Baker et al. 2020). Pandemics shape society as much as society shapes the pandemic. There could have been made into a separate chapter on this dimension of the pandemic (Cavaleri, 2020).

The final chapter is a short epilogue on the *Future of Covid-19*. The authors end by asking an open-ended question on when the pandemic will end. They do not have definite answers. A consolation is that they await the occurrence of herd immunity as it occured during the Spanish flu pandemic. Four types of the ending are expected for the pandemic: medical, social, economic, and political. Wishful thinking is also added as an unsubstantiated rider. Come summer months, and the heat may make the virus vanish!

The theme of the book raises serious ethical and human rights concerns at all stages of assessment and interventions. The informed consent, personal dignity, privacy, and confidentiality of the infected and their families need to be recognized and respected. Such matters need more profound expositions wanting in the book. While one can go endlessly pointing to what could have been added parts of the book, written during trying times, the merits of this timely publication cannot be sidelined.

On the whole, the book is worth reading by both professionals as well as laypersons interested or affected by the pandemic. The theme addressed is timely and the topics are of an ongoing concern. If the professed intention of the authors was to "generate research and policy interest that would result in steady, serious, and sustained efforts dedicated to understanding mental healthcare during and after the pandemic," their efforts have paid dividends. It is now for the readers to take forward the discourse from here to greater heights.

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