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Anxiety, Uncertainty and Resilience during the Pandemic Period-Anthropological and Psychological Perspectives

Ranjan Bhattacharyya

Abstract

Following any natural disaster, tragedy, calamities, there are upsurge of mental health issues found worldwide. COVID 19 is no exception to them. Public health and infection control domains were the first hit at the peak of pandemic. The news and information were bombarded in traditional print and electronic Medias as well as in social Medias. The tsunami of infodemic was a recent topic of discussion. The responsible reporting, media role, role of Government and Non Government organizations are immense. To combat these challenges and ensuring peace and tranquillity are the biggest task of the policymakers ahead.

Keywords: Pandemic, infodemic, psychological first aid, social media, mental health issues

1. Introduction

It all started with the ophthalmologist Dr. Li Wenliang. In the pages of history, probably his name will be printed in golden letters for being the whistle blower of COVID-19 pandemic. He was born on 12th October, 1986 in a tinsel town Beizhen Liaoning in the Republic of China. He was a student of Wuhan University and was watching closely the developments. After going through the papers he suspected the presence of this deadly virus and shared his findings in WeChat group. He had been manhandled by the police of Wuhan city for which they extended apology letter. In this process Dr. Li Wenliang has contacted with SARS CoV2 and died on 7th February 2020 at the age of only 33 years [1, 2].

In the seminal paper published on 24th January 2020 about 59 suspected cases presented with fever, dry cough in Jin Yintan Hospital at Wuhan, China, 41 patients were confirmed to be infected with 2019-nCoV. The Signs and symptoms were typically respiratory symptoms which include fever, cough, shortness of breath, and other cold-like symptoms. Majority of cases (82%) reported to date have been milder; about 15% appear to progress to severe cases, some 3% are critical. Less than a 25% of cases experienced severe illness. Chinese authority's reports on 2% of people infected with the virus have died [3].

The Coronaviruses belonging to the family of *Coronaviridae* infect both animals and humans. Human coronaviruses can cause mild disease similar to a

As per phylogenetic analysis, the expert estimate suggested an origin of the virus sometime between 22 and 24 November 2019.	South China Morning Post claimed that the very first person was infected with COVID-19 on 17 November 2019.
<i>Patient zero</i> - his symptoms started on 1 December.	First hospital admission fell on 16 December A patient with exposure to the Huanan seafood market.
First public message in the pandemic-31st Dec, 2019.	PHEIC (Public Health Emergency of International concern)-31th January
Infodemic-15th February, 2020	Pandemic -11th March.

Table 1.
Chronology of development OF COVID-19.

common cold, while others cause more severe disease (such as MERS - Middle East Respiratory Syndrome and SARS – Severe Acute Respiratory Syndrome). Some coronaviruses found in animals can infect humans and thus called zoonotic diseases [4].

1.1 Source and mode of transmission

Based on current information, an animal source seems the most likely primary source of this outbreak. It is likely that an intermediate host played a role as well in the transmission of the disease from our understanding, there are two types of transmission: zoonotic transmission (transmission from animals to humans) and human to human transmission. Current estimates of the incubation period range from 1 to 12.5 days with median estimates of 5–6 days [5, 6]. The chronology of how COVID 19 has evolved has been summarized in **Table 1**.

1.2 Active case finding

To control any pandemic there should be a dedicated, systematic, team approach needs to be followed. For each case the possible contact tracings needed to be done. One infected person is capable of infecting 3–4 people. Therefore initial approach of the public health experts were active case finding involves a wider search, focusing on certain key areas summarized in **Table 2**.

1. Patients and their visitors in health care facilities where the confirmed patient sought treatment.
2. Health care providers who cared for or cleaned the room of an infected patient.
3. Social, familial and work contacts of the infected patient.
4. Contact tracing.
5. Identify contacts of the infected patient and record
6. Names, contact, demographic information
7. Date of first and last exposure or date of contact with the confirmed or probable case.
8. Date of onset when fever or respiratory symptoms develop.
9. The common exposures and type of contact with confirmed or suspected cases should be thoroughly documented for any contacts that become infected.

Table 2.
Systematic tracing of contacts of cases.

1.3 The modification of search engines

If one clicks over to Google, type in “coronavirus”, and press enter, the results will bear little resemblance to any other search. There are no ads, no product recommendations, and no links to websites that have figured out how to win the search engine optimization game. Government, NGO and mainstream media sources dominate. Algorithms and user-generated content are out; gatekeepers and fact checking are in. Silicon Valley has responded to the “infodemic” with aggressive intervention and an embrace of official sources and traditional media outlets.

2. COVID-19: a pandemic or infodemic: a real story from Iran where hundreds die over false belief

Alcohol poisoning in Iran has skyrocketed amidst the corona virus pandemic as being an Islamic country sale of ethyl alcohol is prohibited. More than 728 people have died from ingesting toxic methanol alcohol since February 2020 [7]. John Zarocostas, WHO informed about WHO’s newly launched platform to combat misinformation. He mentioned that, “To combat Infodemic all stakeholders need to join hand with hands.” [8] Immediately after COVID-19 was declared PHEIC, WHO’s risk communication team launched WHO Information Network for Epidemics (EPI-WIN) [9]. Sylvie Briand, director of Infectious Hazards Management at WHO told “We know that every outbreak will be accompanied by a kind of tsunami of information, misinformation, rumours, etc [10]. Aleksandra Kuzmanovic, social media manager of WHO told *The Lancet* that “fighting infodemics and misinformation is a joint effort including Facebook, Twitter, Tencent, Pinterest, TikTok etc. Kuzmanovic noted that Google has created an SOS Alert on COVID-19 for the six official UN languages, and is also expanding in some other languages. Dr Tedros informed that WHO also uses social media for real-time updates. WHO is also working closely with UNICEF and other agencies having extensive experience in risk communications e.g. International Federation of Red Cross and Red Crescent Societies. WHO Director–General Tedros Adhanom Ghebreyesus at the Munich Security Conference on 15 February 2020 said that; “We’re not just fighting an epidemic; we’re fighting an infodemic”; WHO Information Network for Epidemics (EPI-WIN) was launched as a new information platform after COVID-19 was declared as a Public Health Emergency of International Concern (PHEIC) [11].

2.1 Social media infodemic

As an example, CNN had anticipated a rumour about the possible lock-down of Lombardy (a region in northern Italy) to prevent pandemics, publishing the news hours before the official communication from the Italian Prime Minister. As a result, people overcrowded trains and airports to escape from Lombardy toward the southern regions before the lock-down was in place. Another example of hazards attributable to improper health communication can be drawn from Nigeria. In India, a father of three was reported to commit suicide upon hearing his diagnosis of COVID-19 [12].

2.2 Interventions to address misinformation/rumours

The rumours are widespread which added salt to the wound to people affected globally [13, 14]. Some of the interventions to control the spread of rumours or misinformation are mentioned in **Table 3**. It is also important to flatten the infodemic curve also to break the chain of misinformation (**Figure 1**).

The frontline healthcare providers should be equipped with the most recent research findings and accurate information, which can be used in direct caregiving and communicated with the patients or populations at risk.	Mass media, community organizations, support groups, and civil society may play critical roles in disseminating authentic information.
For this, it is necessary to build strategic partnerships at local and global levels, connecting offline and online resources in a coordinated manner so that validated information is communicated across platforms.	All hoaxes and rumors should be removed from all online platforms.
Only scientifically sound information should be allowed to increase awareness among mass people.	Social media and other online providers should adopt such measures to identify and eliminate potentially harmful misinformation and rumours.
Local and national regulatory authorities and law enforcement agencies should be made aware of these challenges to address these challenges in respective contexts comprehensively.	Online portals and personnel involved with the production and propagation of such misinformation should be brought to justice.
In this regard, governments of many countries have arrested individuals involved with the spread of such rumours.	Individual responsibility before judging and forwarding: think twice act wise.

Table 3.
Steps to prevent hoax news, false information and infodemic.

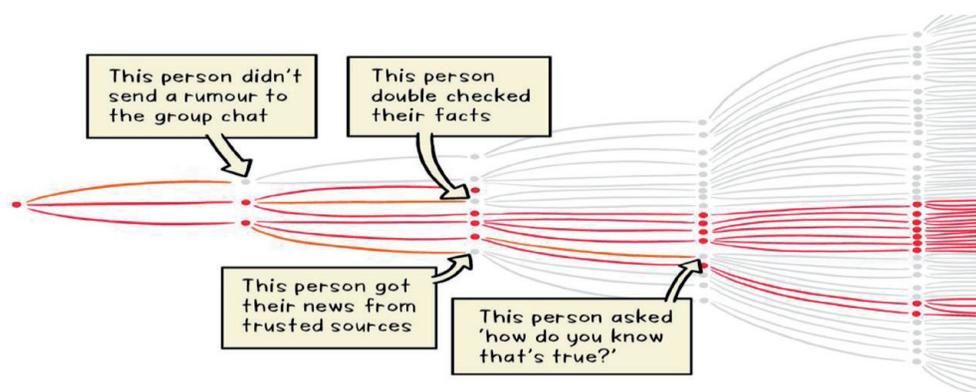


Figure 1.
Flattening the 'infodemic' curve (adapted from WHO website <https://www.who.int/news-room/spotlight/let-s-flatten-the-infodemic-curve>).

From birth to death an individual is invariably exposed to various stressful events. The modern world is not only called as world of achievement but also a world of stress. The term has been defined as external pressure that comes from the environment and perceived as strain within the person. Though the term originally coined for the purpose for physics, but in Medicine it was coined by Canadian endocrinologist Hans Selye. It's defined as the capacity of our body to adjust to a new challenging environment. The environmental stimuli tries to misbalance the homeostatic process and our body tries to bounce back to balance with tensions. The high level stresses also incur high expenditures by virtue of increase health service utilization. Stress persists beyond the period of absenteeism causing much longer period of disability. A stressor, which can be a biological or chemical agent, environmental condition or external stimulus arising in a person due to high pressure in professional and personal life. The physical factors, life events, environmental factors, personal factors coloured by own perception and emotion determines the severity and outcome of a stressful event. The different kind of stressors has been summarized in **Table 4**.

Physiological Stressors	a. Chemical agents b. Physical agents
Sources of stressors	<ul style="list-style-type: none"> • Internal stressors: comes from within, medical illnesses like T2DM, Hypertension, Cancer, Depression and Anxiety disorders. • External stressors: comes from outside environment like birth, death, marriage, loss of job. • Developmental stressors: Best described with Piaget’s and Erikson’s developmental stages which occurs in specific phases of life and is omnipresent in individuals entire life. • Situational stressors: COVID situations, admission in hospital, examination etc.
Physiological indicators	<ul style="list-style-type: none"> • Overactivation of sympathetic, parasympathetic systems, neuroendocrine systems of the body. • Pupillary dilatation, sweating, tachycardia, piloerection, dry skin, decreased urinary output, skin pallor, apprehension, helplessness.
Stress management & Lifestyle Modification	<ul style="list-style-type: none"> • Express empathy, applying mature defence mechanism like humour, altruism, sublimation etc.
Autogenic training	<ul style="list-style-type: none"> • As described by German psychiatrist Johannes Heinrich Schultz (1932), practicing thrice a day each session lasting for 15 minutes.
Relaxation Exercises	<ul style="list-style-type: none"> • By which one initially contracts entire body muscles initially (paradoxically) then relaxing the same which helps to control heart rate, blood pressure, respiratory rate, releases endorphin and rejuvenates immune system.
Deep breathing exercises	<ul style="list-style-type: none"> • In which an individually takes deep breathe through one nostril, closing the other and then exhaling the same through other nostril opening the eyes very slowly. This process being repeated with other nostril in the similar manner.
Fractional relaxation or Jacobson’s Progressive Muscular Relaxation (JPMR)	<ul style="list-style-type: none"> • It is a method of contracting and relaxing one dermatome or muscle of the body gradually. This approach is often used in deep trance and hypnosis.
Pharmacological Management	<ul style="list-style-type: none"> • It’s absolutely necessary for immediate control and prevent relapses mental health issues including suicide which take a heavy toll on quality of life and socio-economic productivity. SSRI (Selective serotonergic reuptake inhibitors), SNRIs (Selective norepinephrine reuptake inhibitors), NaSSA (Noradrenergic specific serotonergic antidepressant), NDRI (Norepinephrine dopamine reuptake inhibitor), Tricyclic antidepressants (TCA) are prime antidepressant drugs. Short time use of anxiolytics judiciously be used in consultation with a psychiatrist. A holistic, integrative management is the call for the day.

Table 4.
Symptoms and management of stress and its consequences.

The role of psychiatrists has been felt when there is widespread panic, fear, apprehension (in the stage of fear) when people became fanatic and lots of mental health issues in are piling up in addition to their normal duty schedule which have been summarized in **Table 5**.

2.3 Psychological first aid

It has been described as humane, supportive response to a fellow human being who is suffering and who may need support [15]. PFA involves the following themes which are highlighted in **Table 6**.

• Routine OPD & inpatient care.	• Training of fellow colleagues, nursing & other staffs (PFA).	• PFA to persons in Quarantine centres & in Isolation wards.
• PFA to family members & relatives.	• Managing primary psychiatric disorder.	• Managing new psychiatric illnesses.
• Managing relapses and recurrences.	• Monitoring ADR or TEAE.	• In person or Tele-consultation.

Table 5.
Role of Psychiatrists in COVID 19 pandemic.

1. Providing practical care and support
2. Assessing needs and concerns
3. Helping people to address basic needs (for example, food and water, information)
4. Listening to people, but not pressuring them to talk
5. Comforting people and helping them to feel calm
6. Helping people connect to information, services and social supports
7. Protecting people from further harm.

Table 6.
Psychological first aid.



Figure 2.
Caesarian delivery were not locked down.

All the processes were not locked down during this pandemic. COVID positive mother delivers beautiful child (**Figure 2**). The Health workers including doctors, nurses, paramedics, medical technicians, Gr C & Gr D staffs, sweepers worked in tandem selflessly and whole heartedly at a stretch for 8–12 hours wearing PPEs and without drinking or eating anything and going to toilets. Other frontline warriors, police, fire fighters, media personal, municipality workers extended all kinds of services to distressed people (**Figure 3**). The general wards, condemned building, newly constructed extensions have been converted to isolation and SARI ward in no time (**Figure 4**).



Figure 3.
Health check up team waiting to receive Migrant workers.



Figure 4.
SARI ward & CCU constructed and renovated.

3. Types of stress

3.1 Positive stress

As per Yerkes-Dodson's law (**Figure 5**), some amount of positive stress is beneficial during initial phase which enhances the performance.

3.2 Eustress

A positive form of stress that helps us to perform, and is usually experienced when we are going through happy events like a graduation, a wedding, the birth of a child, a competitive event, or a vacation.

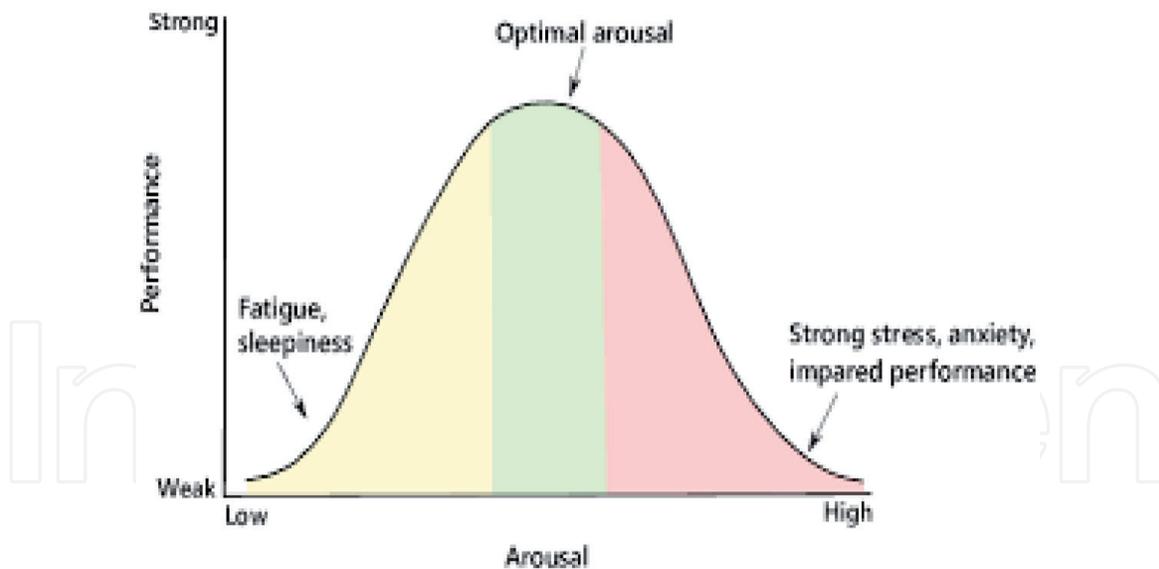


Figure 5.
Yerkes-Dodson's law.

3.3 Negative stress

This can be of three types.

- i. **Distress:** This is one of the types of stress that the mind and body undergoes when the normal routine is constantly adjusted and altered (acute and chronic stress).
- ii. **Hypostress:** is lack of stress, experience by people who are constantly bore.
- iii. **Hyperstress:** is the type of negative stress that comes when a person is forced to undertake or undergo more than he or she can take (job). So, hyperstress can't be equated to positive stress though may sound similar.

In **Figure 5**, it has been shown clearly that some amount of stress/arousal (x axis) is beneficial for performance (y axis). It looks like a symmetrical bell shaped curve. Initially with stress, performance enhances, used as a marketing strategy to enhance performances of employees. The same can be observed before examination. But at the optimum level (dy/dx), in marketing it's known as break-even point where marginal costs equal to operating cost, more arousal/stress has detrimental effect on performances. The maximum level of stress a person can handle (optimal arousal) is known as following which all stresses become distress.

The most common stressors during quarantine are (i) Fear of infection, (ii) Duration of quarantine, (iii) Frustration, (iv) Inadequate supplies. In this pandemic we have gone through three phases as mentioned below [16].

- i. **Stage of fear:** Overbuying, purchasing unnecessary grocery items, medicines, masks, sanitizers.
- ii. **Stage of learning-**Filtering information, minimizing exposure to news and media, control and mastery over things.
- iii. **Stage of growth-**Use skills to benefit others, Think of others and help them, Try to live in present moment, not in past or future, appreciate and cherish loved ones, try to be positive, practice patience and creativity.

The resilience is defined as the capacity of an individual to bounce back successfully against the adversity and building up academic, social and vocational competence amidst severe stress. The vulnerable population like children and elderly need to be care with utmost vigilance. The certain determinants like attitude, behavior, practice decide the future vulnerability of an individual at home, school and college and work place with respect to law abuse violence and use of alcohol and other drugs. The factors that strengthen social competence are – Responsiveness, Care, Empathy, Communication skills, Flexibility, Application of Mature defense like humor and other prosocial behaviour, problem solving skills, autonomy, healthy expectancies, Goal directedness etc. The competence and confidence are achieved at comparatively younger age which makes an individual more resilient. The strength of character, moral fortitude, tenacity, connectivity, communication skills are key factors which enable resilience especially during this pandemic. The positive and adaptive strategies during the presence of adverse stressful is called coping. When the individual becomes self reliant with adaptability and positive coping strategy he or she gains mastery and control over the situation. The Resiliency wheel comprises the following components

- i. Set clear and consistent boundaries
- ii. Teach life skills
- iii. Provide caring and support
- iv. Set and communicate high expectations
- v. Meaningful participation with available opportunities

The conditions that buffer individuals from the negative impact of COVID pandemic are promotion of positive behavior general and psychological well being and strengthening external (Time management, empowerment, boundaries and expectations and support and internal (positive values and identity social competencies and commitment to learning) assets.

The protective factors can be built by social development strategies, healthy beliefs and bonding which improves personal skills and shape up individual characteristics. The COVID pandemic has taught us how to strengthen up attachment, bonding and commitment (ABC) at individual (positive peer pressure, school (online classes and activities, community (caring neighborhoods' being a role model and serving community at various levels and finally at family level by providing support, communication improving relationships participating in music, art, drama, sports and hobbies. The seven C's of positive development are competence, confidence, character, connection, contribution, coping and control [17]. The adolescent are exposed to adverse childhood experiences (ACEs) which can have deleterious effects and make them more vulnerable to behavioral issues and suicidal ideation. This can be dealt by addressing the unique needs of adolescents, building the concept of nurturing resilience [18]. The ten phase process described on resilience are as follows: (1) Practice story, (2) Phenomenon of interest, (3) Theoretical lens, (4) Preliminary core qualities, (5) Reconstructed story, (6) Mini – saga, (7) Refined core qualities with definitions, (8) Concept definition, (9) Model, (10) Mini synthesis [19].

The core structure of nurturing resilience is built up with a processed manner amidst environmental hardships. The four stages nurturing resilience are secure connections, self acceptance, temper reactivity and resilience. The building

resilience in regional youth in a study in Australia described 6 stages of module which are (1) Taking good care, (2) Introducing masterpiece, (3) Obstacle courses, (4) Media messages, (5) Changing worlds, (6) New beginning. The sources of stresses among adolescent can come from school work, friends and family. However

Sympathetic nervous system (SNS)	Molecule	Location & effect
Norepinephrine	Improves cognitive alertness and vigilance in individuals with stress. It modulates fight-or-flight response; the higher activation inhibits functions of prefrontal cortex.	Abnormal regulation of brain's NE function is seen in PTSD with symptoms of re-experiencing, hyperarousal and autonomic nervous system overactivity. Reduced responsiveness to NE could be linked to resilience.
Neuropeptide Y	It's a 36 amino acid peptide produced mainly in hippocampus and amygdale.	The higher concentration of NPY enhances physical and psychological performances, now applied as a novel therapeutic agent in the management of PTSD.
Galanin	30 amino acid neuropeptide encoded by GAL gene, has neuroprotective activity in PNS and promotes nneurogenesis.	It's released simultaneously with activation of noradrenergic neurons.
HPA AXIS	HPA axis plays a crucial role in human and animal stress response.	
CRH	41 amino acids peptide hormone, during stress CRH is released in hypothalamus-hypophyseal portal system. CRH stimulates ACTH which stimulates Cortisol and DHEAS.	CRH1 receptor found in neocortex, basolateral amygdale, hippocampus and CRH2 receptor found in dorsal raphe nucleus, medial & cortical nuclei of amygdale.
Cortisol	Increases attention, vigilance, arousal, consolidation of memory and selective attention	Repeated cortisol administration may cause significant cognitive impairment.
DHEA & DHEAS	Two endogenous hormones secreted by adrenal cortex. Higher levels of DHEAS and DHEAS: Cortisol ratio have protective effects against stress.	They have anti-inflammatory and antioxidant effects, controls obesity, improve sexual functioning.
Dopamine	Monoamine that has attention, drive, motivational and motor controls. Stress inhibits its secretion from nucleus accumbens.	Optimum release of stress induced dopamine in medial prefrontal cortex facilitates behavioural response.
Serotonin	This monoamine is helpful in maintaining appetite, sleep, feeling of happiness and general wellbeing.	It also helps to alleviate mood and anxiety (5HT2A blockade and 5HT1A stimulation) symptoms.
BDNF	This neurotropic factor is present in various regions like amygdale, basal forebrain, hippocampus and prefrontal cortex.	Expression of BDNF TrkB (Tyrosine kinase) receptors have potential role in neurogenesis.
Allopregnanolone (ALLO)	from progesterone which is It's synthesized a cholesterol derived having steroid structure synthesized in two steps with the help of 5 reductase and 3 hydroxysteroid dehydrogenase enzymes.	Allosynthesis thus can be alter by disregulation in the HPA access due to chronic stress.

Table 7. Molecules (neutransmitters, neuropeptides, hormonal) factors mediate stress and builds up resilience.

the source of strength in adolescents comes from social connectedness, self reliance and personal attributes [20]. Mental issues related to the health emergency, such as anxiety, depression, post-traumatic stress disorder (PTSD), and sleep disorders are more likely to affect healthcare workers, especially those on the frontline, migrant workers, and workers in contact with the public. Job insecurity, long periods of isolation, and uncertainty of the future worsen the psychological condition, especially in younger people and in those with a higher educational background. Multiple organizational and work-related interventions can mitigate this scenario, such as the improvement of workplace infrastructures, the adoption of correct and shared anti-contagion measures, including regular personal protective equipment (PPE) supply, and the implementation of resilience training programs [21]. A study on 152 doctors completed responses in an online survey showed 34.9% were depressed and 39.5% and 32.9% were having anxiety and stress. Significant predictors for psychiatric morbidities found in this study were experience in health sector, duty hours, use of protective measures, and altruistic coping. In another online survey it was revealed that (71.8%) and one-fifth (24.7%) of the respondents felt more worried and depressed, Half of the respondents (52.1%) were preoccupied with the idea of contracting COVID-19 and one-fifth (21.1%) of the respondents were repeatedly thinking of getting themselves tested for the presence of COVID-19. only a minority of the respondents (2.2%) took help through the helpline [22, 23]. The COVID-19 pandemic provides unique opportunities for robust evaluation of interventions. When selecting interventions aimed at supporting frontline workers

SNS related genes	Polymorphism in Alpha 2 receptor gene leads to autonomic hype responsiveness. Mice knocked out by Alpha 2 receptor model have displayed stress protective function. NPY gene haploid leads to more vulnerability to stress among youth.
HPA related genes	HPA contribute biological based stress response to build up resilience. Polymorphism in CRHR 1 gene and FK 506 binding protein 5 gene interact with early childhood traumatic experiences (abuse or neglect)
Noradrenergic & dopaminergic gene systems	Polymorphism in COMT gene affects Noradrenergic and Dopaminergic system. Val158met polymorphism in related to stress and associated with stress and PTSD. Polymorphism in DAT1 (Dopamine transporter gene results in susceptibility to PTSD. DRD2 and DRD4 polymorphism have also been found to be associated with stress, trauma and PTSD.
Serotonergic gene system	Interaction between stress and polymorphism in promoter region of 5 HTTLPR (Serotonin transporter gene) has been linked with depression in PTSD
BDNF gene	Val166met polymorphism is linked with BDNF Which shows association with stress related disorders like MDD, PTSD and other anxiety related disorders
Epigenetic factors	It corresponds to alterations in chromatin structures which modifies gene expression and DNA sequence. DNA methylation and acetylation are responsible for epigenetic influences in depression and PTSD.
DNA methylation	NR3C1 gene (Excon1,7 glucocorticoid receptor) linked with decreased hippocampal GR expression. DNA methyltransferase (DNMT) 3B gene expression has been found to be increased in frontoparietal cortex linked with GABA A promoter region in patients diagnosed with PTSD.
Histone methylation & acetylation	Histone methylation is a key process for effective stimulation of neural pathways necessary for learning and long term memories.
Developmental factors	Stress resilience effectively helps to mature cognitive, emotional and developmental process. The painful, unpleasant, negative stress can lead to depression and anxiety which reflects the 'Learned helplessness model.

Table 8.
Genetic and Epigenetic factors related to stress and resilience.

(FLWs) mental health, organisational, social, personal, and psychological factors may all be important [24]. Resilience is used in different fields including but not limited to psychiatry, psychology, social sciences, anthropology, medicine and allied healthcare systems. The healing and healthy lifestyles governed by various protective and salutogenic factors are key players to build up effective resilience. The rising above the adversities in challenging times and shedding off negativities and imparting positivity all around helps an individual to bounce back to normal life. It's like the tensile strength of an elastic material which is acquired with empathy, personal strength and constructive criticism [25]. The factors that improve to build up resilience are support system, inner strength, capacity to handle adversities and toughening up self to fight against stressful working environment, balance in professional and personal life, maintaining connections and reconciliations etc [26].

The interplay of genetic, epigenetic, environmental, hormonal factors and involvement of neuropeptides, neurotransmitters, neural circuits decide the ability to cope up against stress related disorders which has been summarized in **Table 7** [27].

The improved resilience also helps to delay the aging process and improve quality of life which can be strengthened by modelling and input from mentors. The genetic and epigenetic factors implicated in stress and building resilience with effective coping strategy have been mentioned in **Table 8** [28, 29].

The biopsychosocial and spiritual dimensions can be effectively changed by resilient coping strategies which can decrease the caregiver's burden, reduces emotional distress and improves quality of life [30]. In literature, various interventions durations, complex programmes have been mentioned to improve resilience [31].

4. Mental health and psychosocial considerations during the COVID-19 outbreak

- People who are affected by COVID-19 have not done anything wrong, and they deserve our support, compassion and kindness.
- Do not refer to people with the disease as “COVID-19 cases”, “victims” “COVID-19 families” or “the diseased”. They are “people who have COVID-19”.
- Minimize watching, reading or listening to news about COVID-19 that causes you to feel anxious or distressed.
- Protect yourself and be supportive to others.
- Share stories of people who have recovered or who have supported a loved one and are willing to share their experience.
- The current situation will not go away overnight and you should focus on longer-term occupational capacity rather than repeated short-term crisis responses.
- Ensure that good quality communication and accurate information updates are provided to all staff.
- Ensure that staffs are aware of where and how they can access mental health and psychosocial support services and facilitate access.

- Orient all responders, including nurses, ambulance drivers, volunteers, case identifiers, teachers and community leaders and workers in quarantine sites.
- Manage urgent mental health and neurological complaints.
- Ensure availability of essential, generic psychotropic medications at all levels of health care.
- Honor carers and healthcare workers supporting people affected with COVID-19 in your community.
- If you have an underlying health condition, make sure to have access to any medications that you are currently using.
- Learn simple daily physical exercises to perform at home, in quarantine or isolation so you can maintain mobility and reduce boredom.
- Stay connected and it's important to maintain your social networks.
- During times of stress, pay attention to your own needs and feelings.
- It's only a tough time that brings our true-self outside.
- A lot of uncertainty surrounds all of us right now.
- It's NOT only the coronavirus that's highly contagious, our own stigma, prejudices, apprehension; discriminations are equally contagious if not more.
- It's easy to start a cycle of fear, threat, misinformation and worst apprehensions of people.
- Stop doubt, pessimism, cynicism, shaming, fault finding and blaming others.
- Rise above religious, national, political or social differences.
- Try to be a role model for everyone else in your vicinity.
- Accept more and discriminate less.

During this pandemic we have learnt many things. We've learnt how much resources are required for an individual for the livelihood. We've learnt to help each other. We have rediscovered our family and friends. The history repeats itself, the Gripe Esponela (the Spanish influenza flu) almost 102 years ago (1918) had been revisited in literature to compare with COVID 19. But one thing for sure, the budgetary allocation should give the priority on health and education. More funding is required for Research & Development as we've enough manpower but unfortunately we're running ultramodern software in a heavily loaded hardware. Soon this phase will pass away and we'll live in a world with 'new normal' adaptations.

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