



A SURVEY OF STRESS IN GENERAL POPULATION DURING LOCKDOWN DUE TO COVID-19 IN INDIA

Biochemistry

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ABSTRACT

Background: The 2019 corona virus (covid-19) pandemic is a public health emergency of international concern and poses a challenge to psychological resilience. Research data are needed to develop evidence driven strategies to reduce adverse psychological impacts and psychiatric symptoms during the pandemic.

Aims & Objectives: Present study was planned to administer and analyse a large scale survey of stress in general population of India during lockdown, due to covid-19.

Materials And Methods: This is a cross-sectional, observational study carried out in India. An online questionnaire was sent to as many people as possible through Whatsapp. Total 510 respondents were included in the study ranging from 18 years of age to 65 year and more of both the genders.

Results: On an average, stress level was found to be high in 37.3% of respondents. Among them percentage of female respondents was higher than males.

KEYWORDS

Covid-19, Lockdown, Stress

INTRODUCTION:

In Dec. 2019, scientists identified a novel coronavirus (Covid-19) that was associated with an outbreak of pneumonia in Wuhan, China and that was suspected of being zoonotic in origin. In a matter of weeks, over 100,000 of cases and thousands of deaths were confirmed globally, with numbers rapidly increasing daily¹. On Jan 30, the World Health Organisation (WHO, 2020) designated the covid-2019 outbreak a public health emergency of international concern. Scientists rapidly started working to elucidate the characteristics of the virus, including transmissibility, death rate, and origin². While journalists and public health officials worked to communicate critical information globally regarding risk assessments and recommendations, governments planned and responded accordingly.

In response to the problem posed by the pandemic, various public health strategies such as isolation of infected or at-risk persons, reduction of social contact, and simple hygiene measures like frequent hand wash; wearing masks have been advised to reduce the risk of infection.

The Prime minister of India declared a nationwide lockdown starting from midnight of 25th of March 2020, explaining that it was an essential and effective measure for breaking the covid-19 infection cycle³. Social distancing is a critical means to break the cycle of infection. There is significant decrease in growth rate and increased doubling time of cases because of the lockdown⁴.

Declaration of lockdown in addition to a concrete fear of death is likely to affect the mental health of the people. Social distancing affects nearly every part of our lives including finances, transportation, relationships, jobs and healthcare. All this leads to a sense of anxiety and stress in a human being. Some common causes of stress during lockdown are uncertainty, lack of routine and reduced social support. Routines are essential because they create a sense of normalcy and control in our lives. This sense of control then allows us to manage the challenges that come our way. When we are more pessimistic, depressed or anxious, our immune system goes down and produces more stress hormones, reducing our immunity and increasing inflammation. Stress can also put a strain on our mental health, relationship and productivity.

Thus imposed isolation has a huge impact on every aspect of people's lives. There is no study to the best of our knowledge in India that evaluated the stress level in general population during lockdown due to COVID -19 pandemic. It is important to study the mental health impacts in general population for planning effective intervention strategies for them. The present study was planned to administer and analyse a large scale survey of stress in general population of India during lockdown, due to covid-19 pandemic. Result of the present study may assist government agencies and

healthcare professionals in safeguarding the psychological wellbeing of the community in the wake of the covid-19 outbreak in India and other affected countries.

MATERIALS AND METHODS:

This was a cross-sectional, observational study carried out in India. An online questionnaire was developed with a consent form appended to it. The link of the questionnaire was sent through Whatsapp to the contacts of the investigators. The participants were encouraged to roll out the survey to as many people as possible. Thus the link was forwarded to the people apart from the first point of contact and so on

On receiving and clicking the link, the participants got auto directed to the information about the study and informed consent. After they accepted to take the survey, they filled up the demographic details. Then a set of several questions appeared sequentially, which participants were to answer.

A total of 514 respondents participated in the survey. Inclusion criteria were: (a) age 18 years and above (b) living in India. On line survey was closed on sixth day following dissemination of the link. 4 respondents were excluded from the study because they were below 18 yrs of age.

RESULTS:

Table – 1 Distribution Of Subjects According To Age And Sex

Agegroup	Male(%)	Female(%)	Total(%)
<18	0	0	0
18-24	35(50.7)	34(49.3)	69(100)
25-34	65(55.6)	52(44.4)	117(100)
35-44	48(64.9)	26(35.1)	74(100)
45-54	45(62.5)	27(37.5)	72(100)
55-64	106(74.6)	36(25.4)	142(100)
65+	30(83.3)	6(16.7)	36(100)
Total	329(64.5)	181(35.5)	510(100)

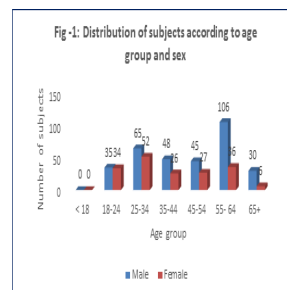


Table 1; fig.1 shows the distribution of subjects according to age and

sex. Out of 510 respondents, 329 (64.5%) were male and 181 (35.5%) were female. Participants were divided in to various slabs of age group with 10 yrs difference like 25-34, 35-44 and so on. First slab was from 18-24 yrs whereas last one was of 65 and above. Maximum participants were from 55-64 yrs age group i.e. 142 (27.8%) followed by 117(22.9%) from 25-34 yrs age group. Number of males exceeded number of females in all age groups.

Table – 2 Socio-demographic Details Of Study Subjects

Variables		Male(%)	Female(%)	Total(%)
Setting	Urban	311(64.5)	171(35.5)	482(100)
	Rural	18(64.3)	10(35.7)	28(100)
Residence	Athome	297(63.7)	169(36.3)	466(100)
	Awayfrom Home	32(72.7)	12(27.3)	44(100)
Occupation	HealthCare Workers	25(75.8)	8(24.2)	33(100)
	Housewives	0(0.0)	45(100.0)	45(100)
	Businessmen	47(83.9)	9(16.1)	56(100)
	Students	27(35.1)	50(64.9)	77(100)
	Others	230(76.9)	69(23.1)	299(100)
Education	Illiterate	0(0.0)	0(0.0)	0(0.0)
	uptp12th standard	12(75.0)	4(25.0)	16(100)
	above12th standard	317(64.2)	177(35.8)	494(100)
Goingoutfor Work/ Stayingat Home	Stayingat Home	277(63.1)	162(36.9)	439(100)
	Going out for Work	52(73.2)	19(26.8)	71(100)
Staying with senior citizen	yes	159(62.4)	96(37.6)	255(100)
	no	170(66.7)	85(33.3)	255(100)

Table 2 describes the demographic details of participants in the study. Most of the participants were from urban area (482; 94.5%) out of which 64.5% was male and 35.5% were female. Out of 510 participants, 466 were staying at home during lockdown in which 297 (63.7%) were male and 169 (36.3%) were female. Individuals of various occupation participated in this survey. 33 health care workers (including doctors, nurses, lab technicians) responded, out of which 25(75.8%) were male and 8 (24.2%) were female. 45 housewives responded in this survey. Businessmen were 56 in number; 47(83.9%) were male and 9 (16.1%) were female. Students who participated were 77 in number, where 27(35.1%) were male and 50 (64.9%) were female. Other occupation included administrators, engineers, lawyers, bankers, social workers, sweepers, gardeners, farmers etc. They were 299 in no. out of that 230 (76.9%) were male and 69(23.1%) were female. Most of the participants (494 out of 510) were highly educated. Very few (16 out of 510) were educated till 12th standard. Stress level in respondents was also checked according to their routine i.e. whether they are staying at home or going out for work. Out of 510 respondents, 439 were staying at home during lockdown which included 277(63.1%) male and 162 (36.9%) females; but other going out for work were 71 in number with 52(73.2%) males and 19(26.8%) females. 50% of the respondents (255) were staying with senior citizen at home. They included 159 (62.4%) males and 96 (37.6%) female.

Table – 3 Distribution Of Subjects According To Their Morbidity Status

Name of Disease	Male(%)	Female(%)	Total(%)
Diabetes	63(86.3)	10(13.7)	73(100.0)
hypertension	85(80.9)	20(19.1)	105(100.0)
Heartdisease	22(100)	0(0.0)	22(100.0)
Stroke	3(100)	0(0.0)	3(100.0)
Kidney disease	1(50)	1(50)	2(100.0)
Hypo thyroidism	4(17.4)	19(82.6)	23(100.0)
Asthma/COPD/otherlung disease	11(64.7)	6(35.3)	17(100.0)
PsychiatricIllness	0	0	0
cancer	3(75)	1(25)	4(100.0)
Taking Immunity Suppressing medications	3(75.0)	1(25.0)	4(100.0)
other	7(58.3)	5(41.7)	12(100.0)
none	189(59.2)	130(40.8)	319(100.0)

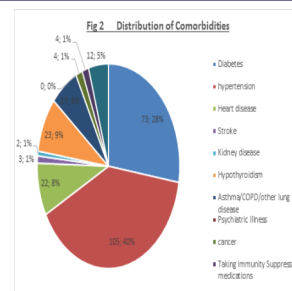


Table 3; fig 2 describes the pre existing medical problems that may have an impact on stress level. 319 participants had no comorbidity. Among rest of the 191 cases who reported one or the other pre existing medical problem, diabetes and hypertension were most prevalent. 86.3% male and 10% females were suffering with diabetes whereas hypertension was present in 80.9% male and 19.1% females.

Table 4 Stress Markers Among Study Participants

Markers	Male (N=329)	%	Female (N=181)	%	Total (N=510)	%
Ignore meals	70	21.2	64	35.3	134	26.3
Having trouble sleeping	98	29.8	118	65.2	216	42.4
Using sleeping pills/ tranquilizers without Doctor's Approval	10	3.0	3	1.7	13	2.5
Get irritated easily	134	40.7	113	62.4	247	48.4
Having weird dreams	58	17.6	34	18.8	92	18.0
Fail to see humour in situations others find funny	82	24.9	108	59.7	190	37.3
Act rude	104	31.6	51	28.1	155	30.3
Make a 'Big Deal' of every thing	42	12.8	34	18.8	76	14.9
Feel lazy	178	54.1	82	45.3	260	53.5
Have difficulty making decisions	69	21.0	51	28.2	120	23.5
You think, you are disorganised	236	71.7	119	65.7	355	69.6
Smoking/Drinking increased during lockdown	21	6.4	4	2.2	25	4.9
Tend to keep your feelings to yourself	187	56.8	108	59.7	295	57.8
Feel fatigued most of the time	73	22.2	85	47.0	158	31.0
Feel lonely even in the company of your loved ones	120	36.5	117	64.6	237	46.5
Feel like you might be close to having a panic attack	32	9.7	28	15.5	60	11.8
Do not Exercise	255	77.5	142	78.5	397	77.8
You think you have very few supportive relationships	130	39.5	85	47.0	215	42.2
You have frequent headache/nausea during lockdown	139	42.2	120	66.3	259	50.8
You often complain of indigestion during lockdown	195	59.3	103	56.9	298	58.4

Different percentage of respondents gave affirmation for different variables. Except for few variables, like whether they use sleeping pills, act rude, feel lazy, feel disorganised, and having increased habit of smoking/drinking during lockdown, percentage of female respondents giving affirmation was more than males. It is clear from the table that for some variables of stress, affirmations were as low as 2.5% while for another one it was too high to 77.8%. On an average 37.3% of respondents were showing stress of some or the other kind.

DISCUSSION:

With covid-19 now dominating our day to day lives, there is a sense of helplessness and worry. Lockdown is absolutely necessary right now to protect ourselves and the people we love. And it comes with a cost. We are all feeling very isolated by the lack of social contact and this will have an effect on our mental health, says Lincoln based counsellor and therapist Sharon Ratcliff, Founder of Wellbeing counselling Lincoln.⁵

Fear is a psychological repercussion of a pandemic. It is an adaptive animal defence mechanism that is fundamental for survival. In a pandemic, fear increases anxiety and stress levels in healthy individuals and intensifies the symptoms of those with pre existing Psychiatric disorders.

In this survey, we found that people of all age groups have participated. Maximum participants were from older age groups (55-64 yrs) i.e. 142(27.8%) out of 510 total participants. But appreciable number of young participants (25-34 yrs) was also there i.e. 117 (22.9%) out of 510. Mazza et al⁶ reported in an Italian survey that young age was associated with increased stress. The literature reports mixed results for this variable, indicating a greater psychological impact among young adults and elderly both^{7,8}.

We also studied the demographic details of all the individuals participating in our survey. Demographic details help in understanding the psychology of a person. Many reports have been published in this regard. A very recent study⁹ among health care professional in a tertiary infectious disease hospital for COVID -19 in China, revealed an high incidence of anxiety and stress disorders among medical staff , with nurses having a higher incidence of anxiety than doctors. Tsamakidis et al¹⁰ also report the same results. In a study by Wang et al¹¹, Students were found to experience great psychological impact with high level of stress, anxiety and depression. According to Mazza at al⁶ leaving home for work was associated with increased stress.

Many studies have reported an association between a history of medical issues and increased anxiety and depression^{6,12,13}. Thus keeping this in mind we also surveyed whether the participants had any previous clinical and psychiatric conditions. In our study about 1/3rd of the participants had co morbidities. Person with a history of medical problems who also perceive their health as poor, might feel more vulnerable to contracting a new disease.¹⁴

Facing this large scale infectious threat, people are under increased psychological pressure. Data derived from previous epidemics, such as the Severe Acute Respiratory syndrome (SARS) in 2003 and H1N1 influenza in 2009, illustrate that the community suffered considerable fear and panic, resulting in a significant psychological impact^{15,16}. This seems to be the case with COVID-19 as well. A very recent general public survey during initial phase of COVID-19 outbreak in China, where the epidemic began, showed that about 1/3rd of the participants reported moderate to severe anxiety while more than half rated the psychological impact as moderate to severe¹⁷. In the present survey 37.3 % of respondents showed stress during lockdown whereas Wang et al 2020,¹¹ in their survey during COVID-19 in china reported stress in 8.1% of respondents. In their study females suffered a greater psychological impact of the outbreak as well as higher levels of stress, anxiety, depression. Similar results were observed in the present study. In another study⁶ of nationwide survey of psychological distress among Italian people during COVID-19 pandemic, 72.8% of respondents were in average stress, 14.6% were in higher range stress and 12.6% were in extremely high range stress. Higher levels of stress were associated with young age, female gender, having to go out to work and a history of stressful situations and medical problems. . These findings may also be linked to the evidence in the international literature that women tend to be more vulnerable to experiencing stress and developing post traumatic symptoms¹⁷

During this Corona virus pandemic most of the educated people and health professionals are aware of this infection, possible preventive measures and the importance of social distancing. Government initiatives were taken to limit the spread of infection, however, there are increased worries and apprehensions among the public regarding the COVID-19 infection. There is need to intensify the awareness programme and address the mental health issues of people during

this COVID-19 pandemic.

This study is limited to the people who had smart phones, e-mail IDs and ability to understand English. This represents the educated population of the country, so it should not be generalised to the whole population.

CONCLUSION:

During lockdown due to covid-19 outbreak in India, a good percentage of respondents were found under stress. Female gender was found to have higher level of stress as compared to males. Our findings can be used to formulate psychological interventions to improve mental health and psychological resilience during the covid-19 pandemic.

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