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Assessment of The Psychological Impact and Perceived Stress due To Covid-19 Lockdown in Young Adult Population of India

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ABSTRACT

COVID-19 pandemic and the lockdown implemented as a measure to contain the virus spread had taken a toll over the psychological well-being of the people especially the young adults, the confinement along with the environment of a highly infectious pandemic around the induvial are put under great stress. The current study aims to assess the psychological impact and perceived stress due to COVID-19 lockdown in Young Adult population of India. It is a cross sectional, observational study. The survey was conducted using Google forms involving snowball sampling technique which obtained 267 responses in total. (IES-R) and (PSS) scales were used for the study. Descriptive analysis was performed on the sociodemographic parameters and the comparison of means were done by Chi-square test in SPSS Statistic 21.0 (IBM SPSS Statistics, New York, United States). The mean IES-R and PSS scores obtained for the population in this study was 25.64±18.95 and 18.27±6.10 respectively. Out of the 267 respondents in total 61.4% (n=164) of them were males. Maximum of the respondents 62.54%(n=167) belonged to the age group of 18-23 with mean age being 23.14± 2.913. 92.5% of the respondents were unmarried and only 26.6% belonged to the rural part of India. Females, younger individuals were found to have higher IES-R and PSS scores. There is significant psychological burden and stress on the young Indian population with females and younger individuals particularly students are the most vulnerable population.
Keywords: COVID-19 lockdown, Psychological Impact, Perceived Stresses-R scale, PSS Scale, Young adults.

INTRODUCTION

COVID -19 is a severe respiratory infection caused by a novel strain of coronaviruses named as SARS-CoV2 which was first isolated in Wuhan, Hubei, China in December 2019. Since then, it alarmingly spread across the globe. The WHO declared it as public health emergency of concern on the 30th of January 2020 affecting 114 countries across the world and a pandemic on the 11th of March 2020.As per the data available on the 06th of July 2020, there were 11,125,245 confirmed cases across the globe and in India with 244814 number of active cases, 409082 cured or discharged and 19268 deaths [1,2]. The mode of transmission of SARS-CoV2 virus is through droplets, close contact, saliva, urine and feces. The commonly presented symptoms include fever, cough, diarrhea, vomiting, fatigue [3]. With no specific treatment or vaccine currently available for it, social distancing, hand sanitization/washing with soap, covering the face with the mask remain the best suggestive measures of prevention. The Indian government declared the first nationwide lockdown on the 24th of March 2020 as a measure to control the spread of COVID-19 in country. The movement across the country was restricted with people confined to their homes for several days that followed. With the freedom and liberty of movement being lost the young adults who make up most of India's population are struck with boredom and excessive consumption of social media which is flooded with both appropriate and inappropriate content regarding COVID-19 which eventually puts the individual into deep stress and negatively impacts the mind psychologically. The constant thought of confinement and the global burden caused by the COVID-19 makes it an epidemiological as well as a psychological concern. The stress and the negative psychological impact due to the COVID-19 lockdown can be expected to cause long term psychological morbidities like Post Traumatic Stress Disorder and Depression like of that

reported due to the SARS epidemic of 2003[4]. In India every 3rd person is a young adult and the long-term psychological morbidities associated with COVID-19 will significantly interfere with every aspect of the country's growth and development. Since not much data has been published regarding the psychological impact and perceived stress among the general Indian population as compared to the other affected countries, the current study aims to assess the psychological impact and perceived stress among the young adults in India due to the COVID-19 lockdown. This shall be the first study as per the best of our knowledge that deals with the assessment of psychological impact and perceived stress among the young adults in India. To assess the psychological impact and perceived stress among the young adults due to COVID-19 lockdown in India.

MATERIALS AND METHODS
It is a cross sectional, observational study design, the questionnaire for the survey was designed using Google Forms which included the sociodemographic details, the IES-R (Impact of Event Scale -Revised) Scale to assess the psychological impact and the PSS (Perceived Stress Scale) to assess the perceived stress. The link of the from was circulated in a snowball sampling method through WhatsApp and mail. The ethical approval from the concerned authority of the hospital (with approval registration number JHCL/CP/004/2020-21) was obtained to conduct the study. The survey was open to responses from 06 June 2020 to 17 June 2020 and it took 5-10 minutes to complete. The survey assured anonymity and confidentiality of the data to the respondent, and only proceeded to collect the data once the respondent clicked on the willingness to consent option voluntarily without expecting any benefit from the study.

Inclusion Criteria of the study
1. Age between 18-35 years.
2. Has access to internet and understands English.
3. Willing to participate and gives consent.
4. Resident of India

Exclusion Criteria of the study
1. Age below 18 years or above 35 years.
2. Not willing to participate and does not give consent.

Instruments used

Impact of Event Scale-Revised (IES-R) : IES-R is a 22 item self-reporting scale which has been widely used in researches and well validated in Indian population to assess the emotional distress due to a specific event in life measuring the traumatic symptoms in the preceding week with a scoring from 0 to 4 for each question[5,6]. It also has 3 sub domains measuring the hyper-arousal, intrusion and avoidance symptoms. The total score may range from 0 to 88. Creamer et al. has reported a cut off of 34 as an indication of PTSD however, this scale is not concussively used to diagnose PTSD in clinical settings.

Perceived Stress Scale (PSS): PSS is a 10-item self-administered questionnaire to assess perceived stress in accordance with the symptoms of the preceding month on a 5-point Likert scale of 0-4[7]. The total score calculated may range from 0-40 with greater composite scores indicative of greater perceived stress.

Statistical Analysis
Descriptive analyses were conducted to describe the sociodemographic characteristics of the respondents. Chi- square test was used to compare the means of the sociodemographic variables with the IES-R and PSS scores obtained. The statistical analyses were done with SPSS Statistic 21.0 (IBM SPSS Statistics, New York, United States).

RESULTS
The results from the study demonstrates that out of the 267 respondents in total 61.4% (n=164) of them were males. Maximum of the respondents 62.54% (n=167) belonged to the age group of 18-23 with mean age being 23.14± 2.913. 92.5% of the respondents were unmarried and only 26.6% belonged to the rural part of India.94.4% people reported no previously existing chronic illness. Almost half of the respondents (53.6%) were graduates and 65.9% of the population consists of students. 1.1% of respondents lost their jobs during this pandemic,7.9% had to discontinue working and 24.7% people were working from home.93.3% respondents were living with their families during the lockdown and 2.2% were living alone as indicated in Table 1. The mean IES-R and PSS scores obtained for the population in this study was 25.64±18.95 and 18.27±6.10 respectively. More than half (57.3%) of the population had IES-R scores less than 23 which indicates no clinical concern but the scores of 22.5% of the population was high enough to suppress the immune system functioning. The mean scores of sub domains of IES-R scale i.e.; Hyperarousal, Intrusion and Avoidance were 0.96±0.89,1.16±0.96 and 1.28±0.87 respectively. More than half of the population (69.3%) experienced moderate stress, as indicated in Table 2.Females, unmarried respondents,

urban residents were found to be more associated with higher IES-R and PSS scores. However, the moderate stress among the individuals those who had pre-existing chronic diseases were higher with low psychological impact. The statistical comparison using Chi-square test shows that there was statistically significant difference (P<0.001) between the PSS and IES-R scores when compared with Gender and Marital status. However, there was no statistically significant difference (P>0.05) when these scored were compared with residence and history of chronic illness as shown in Table 3. Out of the 185 respondents who reported undergoing moderate stress fell into the age group of 18-23 and higher scores of IES-R scale signifying partial to severe PTSD was also reported in the same age group. Respondents living with the family were reported to have representing moderate stress and 55 of them had severe PTSD symptoms. Student and graduate respondents reported facing moderate to severe stress and severe symptoms of PTSD. Table 4 shows that there was no statistically significant difference (P>0.05) when PSS and IES-R scores were compared with different variables such as age, living with, employment status and education. The statistical comparison shows that there was statistically significant difference (P<0.001) between the PSS and IES-R scores when compared with change in working pattern due to COVID-19 lockdown as shown in Table 5. Moderate to severe PSS scores and severe PTSD symptoms were noted in respondents working from home.

Table 1: Sociodemographic profile of the survey respondents

Variables	Frequency (n=267)	Percentage (%)
Gender		
Male	164	61.4
Female	103	38.6
Age (Mean±SD)		
23.14 ± 2.913		
18-23	167	62.54
24-29	87	32.58
30-35	13	4.88
Marital status		
Unmarried	247	92.5
Married	20	7.5
Residence		
Rural	71	26.6
Urban	196	73.4
Chronic illness		
Yes	15	5.6
No	252	94.4
Education		
Post graduate	68	25.5
Graduate	143	53.6
High school	25	9.4
Doctorate	31	11.6
Employment status		
Student	176	65.9
Employed	65	24.3
Unemployed	26	9.7
Change in working pattern		
NA	157	58.8
Working from home	66	24.7
Working from office	20	7.5
Discontinued working	21	7.9
Lost job	3	1.1
Living with		
With family	249	93.3
With friends	12	4.5
Alone	6	2.2

† SD = standard deviation, NA= not applicable

Table 2. Total IES-R and PSS scores

TOTAL IES-R SCORE		
Scores	**Frequency (n=267)**	**Percentage (%)**
0-23 (No clinical concern)	153	57.3
24-32 (Partial PTSD)	42	15.7
33-38 (Probable diagnosis of PTSD)	12	4.5
39 and above (Suppress immune system's functioning)	60	22.5
Sub – Domains	**Mean (n=267)**	**Standard Deviation**
Hyper -arousal	0.96	0.89
Intrusion	1.16	0.96
Avoidance	1.28	0.87
TOTAL PSS SCORE		
Scores	**Frequency (n=267)**	**Percentage (%)**
0-13 (low stress)	63	23.6
14-26 (moderate stress)	185	69.3
27-40 (high stress)	19	7.1

Table 3. Total IES-R and PSS scores

Gender					
Variables		**Total**	**Female**	**Male**	$\chi 2$	**P-value**
TOTAL PSS SCORE	0-13	63	31	32	6.866	<0.001
	14-26	185	118	67		
	27-40	19	15	4		
TOTAL IES SCORE	0-23	153	89	64	5.131	<0.001
	24-32	42	30	12		
	33-38	12	10	2		
	39 and above	60	35	25		
Marital status						
Variables		**Total**	**Unmarried**	**Married**	$\chi 2$	**P-value**
TOTAL PSS SCORE	0-13	63	58	5	10.896	<0.001
	14-26	185	175	10		
	27-40	19	14	5		
TOTAL IES SCORE	0-23	153	146	7	7.982	<0.001
	24-32	42	38	4		
	33-38	12	12	0		
	39 and above	60	51	9		
Residence						
Variables		**Total**	**Rural**	**Urban**	$\chi 2$	**P-value**
TOTAL PSS SCORE	0-13	63	23	40	4.849	0.089
	14-26	185	42	143		
	27-40	19	6	13		
TOTAL IES SCORE	0-23	153	41	112	0.181	0.981
	24-32	42	12	30		
	33-38	12	3	9		
	39 and above	60	15	45		
Chronic Illness						
Variables		**Total**	**Yes**	**No**	$\chi 2$	**P-value**
TOTAL PSS SCORE	0-13	63	62	40	2.628	0.269
	14-26	185	172	143		
	27-40	19	18	13		
TOTAL IES SCORE	0-23	153	5	148	4.117	0.249
	24-32	42	3	39		
	33-38	12	1	11		
	39 and above	60	6	54		

Table 4: Statistical comparison of PSS and IES-R scores with Age, living with, Employment status and Education using Chi-square test

	Age					
Variables		**Total**	**18-23**	**24-29**	**30-35**	**χ2**	**P-value**

		Total	**18-23**	**24-29**	**30-35**	**χ2**	**P-value**
TOTAL PSS SCORE	0-13	63	36	23	4	2.367	0.669
	14-26	185	121	56	8		
	27-40	19	10	8	1		
TOTAL IES SCORE	0-23	153	94	53	6	3.974	0.689
	24-32	42	25	15	2		
	33-38	12	9	3	0		
	39 and above	60	39	16	5		

	Living with					

Variables		**Total**	**With family**	**With friends**	**Alone**	**χ2**	**P-value**
TOTAL PSS SCORE	0-13	63	58	2	3	2.863	0.581
	14-26	185	173	9	3		
	27-40	19	18	1	0		
TOTAL IES SCORE	0-23	153	144	4	5	6.818	0.338
	24-32	42	38	3	1		
	33-38	12	12	0	0		
	39 and above	60	55	5	0		

	Employment status					

Variables		**Total**	**Student**	**Employed**	**Unemployed**	**χ2**	**P-value**
TOTAL PSS SCORE	0-13	63	37	19	7	3.247	0.517
	14-26	185	126	43	16		
	27-40	19	13	3	3		
TOTAL IES SCORE	0-23	153	102	37	14	2.912	0.821
	24-32	42	29	8	5		
	33-38	12	8	4	0		
	39 and above	60	37	16	7		

	Education						

Variables		**Total**	**Doctorate**	**Post Graduate**	**Graduate**	**High School**	**χ2**	**P-value**
TOTAL PSS SCORE	0-13	63	7	9	41	6	9.693	0.138
	14-26	185	20	54	92	19		
	27-40	19	4	5	10	0		
TOTAL IES SCORE	0-23	153	12	36	88	17	9.002	0.437
	24-32	42	7	11	20	4		
	33-38	12	1	3	7	1		
	39 and above	60	11	18	28	3		

Table 5: Statistical comparison of PSS and IES-R scores with change in working pattern due to COVID-19 lockdown using Chi-square test

Variables		Total	Not Applicable	Working from home	Working from office	Discontinued working	Lost Job	χ2	P-value
					Change in working pattern				
TOTAL PSS SCORE	0-13	63	31	19	9	3	1	14.989	<0.001
	14-26	185	113	45	11	14	2		
	27-40	19	13	2	0	4	0		
TOTAL IES SCORE	0-23	153	89	39	14	10	1	13.282	<0.001
	24-32	42	27	12	1	2	0		
	33-38	12	6	5	0	1	0		
	39 and above	60	35	10	5	8	2		

DISCUSSION

The present survey aimed at assessing the psychological impact and perceived stress of COVID-19 lock down in the young adults of India as they represent most of the country's population. Major of the survey respondents were males (61.4%) which is similar to that of the study published by (Varshney M et al.,2020). Majority of the respondent were well educated, urban residents and did not have any pre-existing chronic illness like the results obtained by (El-Zoghby SM et al.,2020) in a similar survey conducted in Egypt population. The mean IES-R score obtained from the study was 25.64 ± 18.95 which is greater than 19.79 ± 13.89, reported by [8] in Indian population but lesser than 32·98 ±15·42, reported in Chinese population by [8,9,10]. It was found from the study that more than half (52.3%) of the population who responded to the survey experienced partial to severe PTSD symptoms similar to the percentage (53.8%) obtained by Wang C *et al*.,[11] in Chinese population. Our study demonstrated that 76.4% people are under moderate to severe stress with a mean score of 18.27±6.10 similar to the results (18.5) obtained by Chua et al. [12] during the SARS outbreak. The results obtained from the study suggested that females and people belonging to a younger age group (18-23) experienced more psychological impact and perceived stress from COVID -19 which is in congruence with the studies conducted by [9, 10] and [11] in Egypt, China and Italy respectively. The existing literature supports that people with existing chronic illness have more psychological impact due to COVID-19 however, our study could not draw comparison to it.

Limitations of the study
1. The sample size is small hence cannot represent the entire picture of the country and its psychological and stress status.
2. The bias and limitations associated with snowball sampling technique exists in the study.
3. The survey could only be administered to people who have internet access and understand English.

Despite the study limitations, it provides insights into the psychological impact and the stress undergone by the young adults of India during the period of COVID-19 lockdown. And the fact that most of the study results were supported by the existing literature results strengthens the credibility of the study. The study definitely provides a small picture of the major concern of the hour i.e.; the mental well-being of our country's young minds. The deteriorating psychological wellbeing of the young adults shall put them in the risk of serious psychological morbidities and addictions This study shall help in framing up strategies to overcome and curb this hurdle.

CONCLUSION
The study concluded that the young adults of India are psychologically impacted by the COVID-19 lockdown and are under great amount of perceived stress. Females and younger respondents majorly students can be identified as the vulnerable population from the study. COVID-19 has clenched its claws deep into not only the physical health status of the world but also its psychological well-being along with creating a huge socioeconomic burden.

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