

Status of Perceived Stress and Quality of Life in Adults during COVID-19 Pandemic

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ABSTRACT

Background: The deadly second wave of coronavirus disease-2019 (COVID-19) pandemic swept through the whole of India during the month of April–May 2021. Restrictions like lockdowns and social distancing impacted the normal functioning of life. It is in this backdrop that we need to understand the perceived stress and quality of life among people.

Aim and objective: The aim and objective of this study was to evaluate and study the relationship between perceived stress and quality of life among adults living in Delhi NCR, during the second wave of the COVID-19 pandemic.

Materials and methods: A 10-item perceived stress scale (PSS-10) was used to assess perceived stress among adults. The 26-item World Health Organization Quality of Life Brief Version (WHOQOL-BREF) was used to assess the quality of life. The data were collected online and analyzed using statistical methods, like independent samples *t*-test and Spearman's rank correlation.

Results: The study found no significant difference in the perceived stress between males and females ($p > 0.05$). There was no significant difference in various domains of quality of life, like physical health, psychological health, social relationships, and environmental health between males and females ($p > 0.05$). Also, the overall quality of life had a significant negative correlation ($p < 0.01$) with perceived stress.

Conclusion: Better outcomes on the parameters of physical health, psychological health, social relationships, and environmental health among the participants helped them to keep perceived stress at low-to-moderate levels and achieve a better quality of life.

Keywords: Adults, COVID-19, Pandemic, Perceived stress, Quality of life.

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INTRODUCTION

Stress is any external situation that disturbs the inner equilibrium state of the body. This equilibrium or homeostasis is the normal range of various internal parameters in the body.¹ Any long-term exposure to stress will result in disease as a result of disturbance of the homeostasis.² Stress is more in terms of cognition than physiological. Stress results from an individual's perception of external stressor and the ability to allocate available resources for it.³

Ever since the outbreak of coronavirus disease-2019 (COVID-19) pandemic, life in general has been full of uncertainties. In the first wave of COVID-19, lockdowns, social distancing, deaths, isolation, and economic slowdowns all contributed to stress. As the number of cases dropped in subsequent months, daily life returned to normalcy. It seemed that control over the spread of the virus was achieved. However, the brutal second wave of COVID-19 during the month of April–May 2021 had once again put brakes on the hopes of returning to normal life and prolonged stress due to helplessness.

The aim of this study was to investigate the effect of perceived stress on the quality of life in adults. Perceived stress is the cognitive appraisal of a stressful situation and one's ability to cope with it through available resources. Quality of life is an evaluation of one's own life in terms of physical health, mental health, social relationships, etc. Studying the quality of life amid the stressors of COVID-19 pandemic will give an important insight into how the important pillars of human life, like physical health, mental health, and social relationship, play their role in deciding the quality of life and stress experienced.

Those who have low adaptive capacity, financial resource constraints, lack of social support, and preexisting issues related to mental health faced higher amounts of stress than those who

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do not have all these. Longer lockdown periods generated more stress to the financially weaker individuals to meet their daily bread and butter for their families.

A cross-sectional study on 250 Indian doctors in a hospital found that 62% of doctors were under moderate stress and 27% were under high stress. More than 50% of doctors reported that they were not in control of the situation and could not cope up with stress.⁴ In an online survey conducted on 450 students of Indian university during the COVID-19 pandemic, it was found that a significant percentage of students were under stress. The stress had associations with factors like inability to accept the new way of virtual learning, confinement in home, and worries about self-management.⁵

A study on lifestyle behavior among Indians during the COVID-19 pandemic found that there had been noticeable changes in lifestyle behavior. Firstly, high levels of anxiety were reported by participants.

In dietary behavior, overeating, increased meal frequency, and reduction in consumption of junk food were observed. There was a considerable increase in weight and reduction in physical activity. Sleep quality and number of sleeping hours also got reduced.⁶

Stress due to the COVID-19 pandemic among 651 participants in Bangladesh was studied through an online survey. Respondents showed higher levels of stress and reported their concerns related to fear of losing a job or business, reduced working efficiency, difficulty in managing food for family members, uncertainty in future prospects, fear of losing family members, and cutting down on daily money spending due to financial stress.⁷

Older people had been more vulnerable to COVID-19 and as a result, they had to face lots of problems due to several restrictions. Old people aged 65 and above reported a decrease in life satisfaction, general well-being, sleep quality, and physical activity. Also, a decrease was noted in cognitive functionings, like concentration, remembering, and recalling, despite the fact that the majority of participants did not have any history of diseases, like dementia and Parkinson.⁸

Studies have shown that changes in lifestyle and quality of life during the pandemic have contributed to the stress among women. Lack of physical activity, sleep, and social connectivity caused immense stress which resulted in adopting unhealthy lifestyles, like smoking, drinking alcohol, and increased weight due to ingestion of food high in sugar and fat.⁹ In a study comparing the stress due to pandemic among 546 caregivers (both male and female caregivers) of families, it was found that stress levels were higher in female caregivers than in male caregivers. Female caregivers had more pressure to manage their work from home, look after family members, and homeschool children due to the closure of schools. This highlights the unequal sharing of the burden of caregiving in homes between males and females.¹⁰

A study on quality of life among 164 healthcare professionals found that physical health was a prominent factor in deciding quality of life. Uncomfortable working conditions contributed to fatigue, muscular pains, and injuries, thereby, reducing the quality of life.¹¹ Study through an online survey also showed that quality of life during pandemic deteriorated due to stress.¹² It was also found that self-efficacy and positive appraisal of the environment improved stress and life satisfaction.¹³

MATERIALS AND METHODS

Study Design

A cross-sectional survey study was conducted using two widely used instruments to measure the quality of life and perceived stress level among adults in Delhi NCR, India during the COVID-19 pandemic. Adults who were aged 19 years or older were included in the study. Whereas, the adults who were diagnosed with major illnesses (mental or physical) were excluded from the study.

Study Instruments

Quality of Life

The World Health Organization Quality of Life Brief Version (WHOQOL-BREF) was used to assess quality of life (QOL). The WHOQOL-BREF comprises 26 items that measure four domains: physical health (eight items), psychological health (six items), social relationships (three items), and environmental health (nine items). The four domain scores denote an individual's perception of quality of life in each particular domain. All items are measured on a 5-point

Likert scale ranging from 1 to 5, and domain scores are scaled in a positive direction (i.e., higher scores denote higher quality of life), with a possible range of 08–40, 06–30, 03–15, and 09–45 in the physical health, psychological health, social relationships, and environment domain, respectively. A standard transformation method is used to convert the domain scores to a 0–100 scale.

Perceived Stress

The perceived stress scale (PSS) was used to measure stress. The 10-item PSS (PSS-10) is the most widely used psychological instrument for measuring the degree to which situations in one's life are appraised as stressful. The questions in the PSS ask about feelings and thoughts during the last month. In each case, respondents asked how often they felt a certain way. Responses to questions measured on a 5-point Likert scale ranging from 0 (never) to 4 (very often). The majority of questions were stated negatively. PSS scores were obtained by summing across all scale items after reversing responses to 4 positively stated items (i.e., 0 = 4, 1 = 3, 2 = 2, 3 = 1, and 4 = 0).

Data Collection

Convenience sampling was used for collecting the data, in which participants were provided with a description of the study and its objectives and then were invited to participate voluntarily. Those who agreed to participate were sent the questionnaires in Google form on their email or WhatsApp. A total of 100 adults participated in this study during the month of April–May 2021.

Statistical Analysis

Descriptive statistical analyses were performed to analyze the data collected from the participants. Continuous variables were presented in the form of mean (\pm SD) and categorical variables were presented as numbers (%). Spearman's rank correlation was used to quantify the relationship between domain-specific WHOQOL-BREF scores and PSS. Statistical significance was considered at $p < 0.05$. A p -value less than 0.05 was considered statistically significant. All statistical analyses were performed using statistical software SPSS (version 20.0).

RESULTS

A total of 100 adults completed the questionnaires. The participants had a mean age of 39.59 (SD = 14.49) years. Among them, 57% ($n = 57$) were males and 43% ($n = 43$) were females (Table 1). The majority of respondents were employed (66%), 15% were students, 7% were retired, and only 12% were housewives (Table 2).

The mean score for perceived stress was 18.58 (SD = 8.29). Moreover, 52% of participants ($n = 52$) reported moderate perceived stress, 20% ($n = 20$) reported high perceived stress, and 28% ($n = 28$) reported low perceived stress. The mean of perceived stress in

Table 1: A descriptive analytic picture of total sample ($n = 100$) on perceived stress

		High	Low	Moderate	Total	Mean	SD
Sex							
Female	n	11	9	23	43	20.70	6.88
	($n = 43$)	%	25.6%	20.9%	53.5%	100.0%	
Male	n	9	19	29	57	16.37	7.20
	($n = 57$)	%	15.8%	33.3%	50.9%	100.0%	
Total	N	20	28	52	100	18.58	8.29
	($N = 100$)	%	20.0%	28.0%	52.0%	100.0%	

females was 20.7 (SD = 6.88) and in males was 16.37 (SD = 7.20). Among females, high perceived stress was reported by 25.6% (n = 11), moderate perceived stress by 53.5% (n = 23), and low perceived stress by 20.9% (n = 9). Among males, high perceived stress was reported by 15.8% (n = 9), moderate perceived stress by 50.9% (n = 29), and low perceived stress by 33.3% (n = 19) (Table 1).

Among housewives, high perceived stress was reported by 41.7% (n = 5), moderate perceived stress by 33.3% (n = 4), and low perceived stress by only 25% (n = 3). Among retired personnel, high, moderate, and low perceived stress was reported by 14.3% (n = 1), 42.9% (n = 3), and 42.9% (n = 3), respectively. Among the self-employed, high, moderate, and low perceived stress was reported by 18.5% (n = 5), 51.9% (n = 14), and 29.6% (n = 8), respectively. Among the service personnel, high, moderate, and low perceived stress was reported by 15.4% (n = 6), 59% (n = 23), and 25.6% (n = 10), respectively. Lastly, among students, high, moderate, and low perceived stress was reported by 20% (n = 3), 53.3% (n = 8), and 26.7% (n = 4), respectively (Table 2).

The mean score for quality of life among all the participants was 86.6 (SD = 16.7). For females, the mean score was 88.37 (SD = 18.24) and for males, the mean score was 90.16 (SD = 15.50). The quality of life questionnaire had four domains, namely physical health, psychological health, social relationships, and environmental health. The mean score of adults for physical health was 14.78 (SD = 3.2). The mean score for psychological health was 13.52 (SD = 3.72). The mean score for social relationship was 14.6 (SD = 3.8), and the mean score for environmental health was 14.83 (SD = 3.01) (Table 3).

An independent sample t-test was performed on the collected data and it was found that there was no significant difference in perceived stress between males and females (p > 0.05). Also, there was no significant difference (p > 0.05) among the four domains of quality of life: physical health, psychological health, social relationships, and environmental health between males and females (Table 4).

Table 2: Category-wise distribution for the levels of perceived stress among participants

		High	Low	Moderate	Total
Occupation					
Housewife	n	5	3	4	12
	%	41.7%	25.0%	33.3%	100.0%
Retired	n	1	3	3	7
	%	14.3%	42.9%	42.9%	100.0%
Self-employed	n	5	8	14	27
	%	18.5%	29.6%	51.9%	100.0%
Service	n	6	10	23	39
	%	15.4%	25.6%	59.0%	100.0%
Student	n	3	4	8	15
	%	20.0%	26.7%	53.3%	100.0%
Total	N	20	28	52	100
		20.0%	28.0%	52.0%	100.0%

Spearman’s rank correlation was calculated and it was found that overall quality of life had a significant negative correlation (r = -0.364, p < 0.01) with perceived stress (Table 5).

Physical health had a significant negative correlation (r = -0.323, p < 0.01) with perceived stress, a significant positive correlation (r = 0.430, p < 0.01) with psychological health, a significant positive correlation (r = 0.259, p < 0.01) with social relationships, and a significant positive correlation (r = 0.358, p < 0.01) with environmental health (Table 5).

Psychological health had a significant negative correlation (r = -0.300, p < 0.01) with perceived stress, a significant positive correlation (r = 0.430, p < 0.01) with physical health, a significant positive correlation (r = 0.306, p < 0.01) with social relationships, and a significant positive correlation (r = 0.403, p < 0.01) with environmental health (Table 5).

Social relationship had a significant negative correlation (r = -0.388, p < 0.01) with perceived stress, a significant positive correlation (r = 0.259, p < 0.01) with physical health, a significant positive correlation (r = 0.306, p < 0.01) with psychological health, and a positive correlation (r = 0.143, p > 0.01) with environmental health (Table 5).

Environmental health had a negative correlation (r = -0.019, p > 0.01) with perceived stress, a significant positive correlation (r = 0.358, p < 0.01) with physical health, a significant positive correlation with psychological health (r = 0.403, p < 0.01), and a positive correlation (r = 0.143, p > 0.01) with social relationship (Table 5).

DISCUSSION

The study found that there was no statistically significant difference in the scores of perceived stress between males and females which was not in line with the finding of Mattioli et al.⁹ that women had more stress than males during the COVID-19 pandemic and with the finding of Wade et al.¹⁰ that the majority of housewives had more stress due to unequal sharing of household responsibilities during COVID-19 pandemic. The study found perceived stress among the majority of retired personnel to be in the low-to-moderate range and does not support the finding of DePue et al.⁸ that old and retired people were under high stress. Also, the finding of this study that the majority of the students and professionals in service had low-to-moderate stress did not confirm the findings of Chhetri et al.⁵ and Garg et al.,⁴ which reported high stress among students and working professionals, respectively.

Also, there was no significant statistical difference in the domains of physical health, psychological health, social relationships, and environmental health between males and females. Females reported high scores in all the domains of quality of life and low scores on perceived stress. This result did not confirm the findings of Rawat et al.⁶ and Mattioli et al.,⁹ which had reported detrimental changes in the quality of life and adoption of unhealthy lifestyles due to stress among females.

Perceived stress and quality of life are interlinked. By managing one we improve the other. Perceived stress had a negative

Table 3: A descriptive analytic picture of the total sample (N = 100) on quality of life among participants

	Physical health	Psychological health	Social relationships	Environmental health	Overall quality of life		
					All participants (n = 100)	Male (n = 57)	Female (n = 43)
Mean	14.78	13.52	14.60	14.83	86.67	90.16	88.37
Std. deviation	3.20	3.72	3.80	3.01	16.76	15.50	18.24

Table 4: Independent sample *t*-test between the quality of life and perceived stress among participants based on gender

	Mean	SD	df	t	p
PSS					
Female (n = 43)	20.70	6.88	98	3.03	0.84
Male (n = 57)	16.37	7.20			
QOL					
Female (n = 43)	88.37	18.24	98	-0.52	0.29
Male (n = 57)	90.16	15.50			

Table 5: Spearman's rank correlation among QOL, domains of QOL, and perceived stress

	1	2	3	4	5	6
Physical Health	—					
Psychological Health	0.430**					
Social Relationships	0.259**	0.306**	—			
Environmental Health	0.358**	0.403**	0.143	—		
QOL	0.221*	0.519**	0.392**	0.406**	—	
PSS	-0.323**	-0.300**	-0.388**	-0.019	-0.364**	—

**Correlation is significant at the 0.01 level (two-tailed); *Correlation is significant at the 0.05 level (two-tailed)

correlation with the quality of life, which means that low-stress levels improve our quality of life. All the four domains of quality of life had a negative correlation with perceived stress which shows that by focusing on the quality of life, we reduce the perceived stress. The domains of physical health and psychological health are important for well-being, and for responding to a stressful situation. Better scores among participants in these domains reduced the impact of perceived stress on the quality of life. The domain of social relationship significantly reduced perceived stress among participants despite the city being under lockdown. The role of social media, video chatting software, and apps cannot be ignored, as they play an important role in connecting with loved ones. The domain of environmental health helped in reducing perceived stress but it was not so significant, as it is understood from the fact that lockdowns and social distancing measures restricted the free movement of people.

However, this study also has certain limitations and it is important to highlight them to make the findings of this study scientific. The sample used in the study only contains participants from the Delhi NCR region and has more males than females. In a country like India, which is demographically very diverse, it is difficult to generalize the findings of this study to the whole population. Therefore, the generalization of the results of this study is done only reasonably. Since data were collected online in an uncontrolled environment using Google form, hence, people might have not responded to the form accurately. Further research should be conducted to study a large and demographically more diverse population to complement the results of this study.

CONCLUSION

This study has revealed that the majority of participants scored better in the domains of quality of life and experienced only moderate-to-low perceived stress during the deadly wave of the COVID-19 pandemic in the month of April–May 2021. To have a better quality of life and low perceived stress, it is important to make healthy adjustments in physical health, psychological health, social relationships, and our environment. The findings from this study reinstate the importance of adopting a healthy lifestyle that promotes a better quality of life and low stress.

The findings from the current study indicate that it is important to formulate counseling and stress management programs that can help people to manage their physical health, psychological health, social relationships, and environmental health and to achieve balance in all the spheres of life through a healthy lifestyle. Such programs should contain all the elements listed here for maximum benefit and should engage participants of all ages, like students, working professionals, housewives, retired professionals, and self-employed.

REFERENCES

- Selye H. Stress of my life: a scientist's memoirs. New York: Van Nostrand Reinhold Company; 1979.
- Tan SY, Yip A. Hans Selye (1907-1982): founder of the stress theory. Singapore Med J 2018;59(4):170–171. DOI: 10.11622/smedj.2018043.
- Lazarus RS, Folkman S. Stress, appraisal, and coping. Springer Publishing Company; 1984.
- Garg R, Singla A, Garg J. Perceived stress among doctors working in a dedicated COVID-19 hospital in North India. Indian J Med Sci 2021;73(2):155–158. DOI: 10.25259/IJMS_94_2021.
- Chhetri B, Goyal L, Mittal M, et al. Estimating the prevalence of stress among Indian students during the COVID-19 pandemic: a cross-sectional study from India. J Taibah Univ Med Sci 2021;16(2):260–267. DOI: 10.1016/j.jtumed.2020.12.012.
- Rawat D, Dixit V, Gulati S, et al. Impact of COVID-19 outbreak on lifestyle behaviour: a review of studies published in India. Diabetes Metab Syndr Clin Res Rev 2021;15(1):331–336. DOI: 10.1016/j.dsx.2020.12.038.
- Amit S, Barua L, Al Kafy A. A perception-based study to explore COVID-19 pandemic stress and its factors in Bangladesh. Diabetes Metab Syndr Clin Res Rev 2021;15(4):e04399. DOI: 10.1016/j.dsx.2021.05.002.
- DePue S, Gillebert C, Dierckx E, et al. The impact of the COVID-19 pandemic on wellbeing and cognitive functioning of older adults. Sci Rep 2021;11(1):4636. DOI: 10.1038/s41598-021-84127-7.
- Mattioli AV, Sciomer S, Maffei S, et al. Lifestyle and stress management in women during COVID-19 pandemic: impact on cardiovascular risk burden. Am J Lifestyle Med 2021;15(3):356–359. DOI: 10.1177/1559827620981014.
- Wade M, Prime H, Johnson D, et al. The disparate impact of COVID-19 on the mental health of female and male caregivers. Soc Sci Med 2021;275:113801. DOI: 10.1016/j.socscimed.2021.113801.
- Silva B, Quaresma F, Maciel E, et al. Correlation between stress and quality of life experienced by caregivers: perception of a group of healthcare professionals. Open Nurs J 2017;11:135–141. DOI: 10.2174/1874434601711010135.
- Khodami M, Seif M, Koochakzadeh R, et al. Perceived stress, emotion regulation and quality of life during the Covid-19 outbreak: a multi-cultural online survey. Ann Med Psychol 2021. DOI: 10.1016/j.amp.2021.02.005.
- Lee J, Kim E, Wachholtz A. The effect of perceived stress on life satisfaction: the mediating effect of self-efficacy. Ch'ongsonyonghak Yonju 2016;23(10):29–47. DOI: 10.21509/KJYS.2016.10.23.10.29.