PSYCHO PHYSICAL STATE AMONG POST COVID-19 PATIENTS

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ABSTRACT

Pandemics are diseases that occur from time to time throughout human history and negatively affected humanity Sociologically, Economically and Psychologically. Keeping this fact, the present study was to investigate the Psycho physiological state among Post Covid-19 Patients. The sample of the present study consist 60 Post Covid-19 Patients taken from in and around Kadapa city, their age ranges from 20-60 years. Purposive sampling technique was used. Psycho physiological state inventory was used. Data were analyzed by using Mean, SD's, t-test. The results reveal that the significant differences found between married and unmarried post covid-19 patients in their Psycho physiological state.

Key words: Psycho physiological state, Post Covid-19 Patients, Gender, Age, Location, and Marital Status.

Pandemics are diseases that occur from time to time throughout human history, causing millions of people to die and negatively affecting public mental health. According to the World Health Organization, (2020) pandemic is the spread of a new disease worldwide, which has caused many people to be harmed and also killed many people. Pandemics have been seen in many periods throughout history. Each pandemic negatively affected humanity sociologically, economically and psychologically. For example, pandemics such as influenza, Severe Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome (MERS) are among the pandemics that have negatively affected millions of people. Today, people are still struggling with a pandemic. COVID-19, which was first seen in Wuhan, China and then spread rapidly all over the world, affects the whole world deeply. COVID-19 also affected many people and caused many people to lose their lives shortly after emerging like other pandemics (World Health Organization 2020). Currently, humanity is in the middle of a process that must be rigorously managed. In this context, it is necessary to reveal scientific researches about COVID-19 and to discuss the short and long term effects of it on people. Scientific research on COVID-19 is of great importance in order to prevent the destructiveness of it in social, political, psychological and economic dimensions. In this study, it was aimed to keep a projection on how COVID-19 could affect people psychologically by starting from the psychological negative effects of epidemics and natural disasters that have affected humanity in the past. In this context,

recommendations were made regarding the measures to eliminate the negativities in the short and long term.

Physiologically and Psychologically

The most affected people by the COVID-19 pandemic are those who suffer from this pandemic. In the studies examining the psychological effects of COVID-19 on patients, as seen in other epidemics that most patients face negative psychological conditions such as posttraumatic stress disorder, anxiety, depression, loneliness, distress, fear, anger and fear of being tagged (Bo et al. 2020; Wu, Chan and Ma 2005; Cheng et al. 2004). Indeed, large scale destructive events such as natural disasters and wars in the past have been known to affect people's psychological health negatively. In such cases, the most common behavioral and psychological disorders are reported to be depression, anger, anxiety, low self-esteem and posttraumatic stress disorder (PTSD) (Arpaci et al., 2020b; Nigam and Kumar 2020; Steinberg and Daniel 2020; Sood 2020). For example, Van Bortel et al. (2015) examined the psychosocial effects caused by the Ebola pandemic. In their study, they stated that Ebola has personal, social and global effects. These effects are generally expressed as fear and anxiety, shame, mourning, loss of confidence, trauma, discrimination and psychological disorders. In different studies, it has been reported that COVID-19 epidemic has many mental problems including anxiety, depression and stress; as well as psychological problems including PTSD, sleep disorders and etc. in both the healthcare staff and the public (Hu et al. 2020; Liu et al. 2020; Kang et al. 2020; Sun et al. 2020; Xiang et al. 2020). At the same time, researchers predict that COVID-19 epidemic will cause problems such as extreme fear of disease, anger, increased alcohol and tobacco use, acute stress disorder, schizophrenia and suicidal tendencies (Hu et al. 2020; Huang and Liu 2020; Li et al. 2020; Dai et al. 2020). On the other hand, hypochondrias is can be seen in people who have been exposed to the disease and recovered or who have never been infected. The continuous exposure of people to information, news and videos about a disease, as in COVID-19, causes hypochondrias is (Marcus et al. 2007). COVID-19 is the most mentioned topic in almost every mass media for the last 6 months. In this context, intense exposure to COVID-19 is predicted to increase the likelihood of hypochondrias is in today's people.

Psychological Effect of COVID-19

Like the traumatic experiences that have caused many psychological problems on humans throughout history, COVID-19 will have a negative psychological effect on every person. In this context, children are one of the groups most affected by destructive events such as pandemic, war, forced migration, and natural disaster. It is thought that compared to other age groups, children will be more negatively affected psychologically because of the difficulty of making sense of all these COVID-19 experiences and lack of self-expression skills. In their study on the SARS pandemic’s psychological effect on children, Tsang, Scudds and Chan (2004) stated that the children in families who have a pandemic in their family members show excessive crying behavior, have difficulty in sleeping and feel embarrassed. Wang, Zhang, Zhao, Zhang, and Jiang (2020) stated that children may face many psychological problems such as the fear of

getting infected with the COVID-19 epidemic, anxiety and frustration, and troubles because of the shortage of social interaction. In this sense, it can be claimed that children who are adults of the future are at a great psychological risk.

Statement of the Problem: An attempt is made in the present investigation to study the "Psycho-Physiological State among Covid-19 Patients".

Objectives:

1. To study whether there are any significant differences among gender of Covid-19 patients in their Psycho-Physiological sate.
2. To study whether there are any significant differences among Location of Covid-19 patients in their Psycho-Physiological sate.
3. To study whether there are any significant differences among Age of Covid-19 patients in their Psycho-Physiological sate.
4. To study whether there are any significant differences among Marital status of Covid-19 patients in their Psycho-Physiological sate.
5. To study whether there are any significant relationships between Physiological sate and Psychological state with regards to socio demographic variables.

In order to realize the above objectives, the following Hypotheses are formulated to be tested in the present investigation.

Hypotheses:

1. There would be significant differences between male and female Covid-19 Patients in their Psycho-Physiological sate.
2. There would be significant differences between Rural and Urban Covid-19 Patients in their Psycho-Physiological sate.
3. There would be significant differences between ages 20-40 and 41-60 Covid-19 Patients in their Psycho-Physiological sate.
4. There would be significant differences between Married and Unmarried Covid-19 Patients in their Psycho-Physiological sate.
5. There would be significant relationships between Physiological sate and Psychological state with regards to socio demographic variables.

Population: In the present sample the data were calculated from the Covid-19 patients in the Government Hospital, Primary Health Centers and Private Covid Centers in and around Proddatur town, Kadapa District, Andhra Pradesh constituted transmitting the population of the study.

Table I: Socio-Demographic details of the sample

S.No	Variable		N	Percentage
01	Gender	Male	20	50
		Female	20	50
02	Location	Urban	20	50
		Rural	20	50
03	Age	20-40	20	50
		41-60	20	50
04	Marital Status	Married	20	50
		Unmarried	20	50

From the above population 40 covid-19 patients were selected by purposive random sampling technique. The sample consists of 50% of male and 50% of female covid-19 patients, 50% belongs to urban area 50% belongs to rural area, and 50% married and 50% unmarried covid-19 patients. The sample distribution is presented in the table-I.

Independent Variables: Gender, Location, Age, and Marital Status.

Dependent Variables: Physiological state, and Psychological state.

Tool: Psycho-Physiological state inventory (PPSI) constructed and standardized by Sanjay Vohra (1990) it consists of 102 highly discriminating often, sometimes, seldom, never items across two areas of Psycho-Physiological sate inventory that part-1and part-2.

Statistical analysis: The obtained data are subjected to descriptive statistics search as mean and standard deviation, inferential statistics such as t-test and correlation.

Results and Discussion: The obtained Data were quantitatively analyzed to test the hypotheses and the results were presented in the following.

Hypothesis-1: There would be significant differences between Male and Female Covid-19 Patients in their Psycho-Physiological sate.

Table-II: shows Mean's SD's and t- value for the variable Gender with regarding Psycho-Physiological sate.

Variable	Sub-group	Mean's	SD's	t-value
Gender	Male	270.22	50.26	0.574@
	Female	261.69	48.67	
@ not significant				

An observation of Table-II clearly indicate that the Male covid-19 patients has obtained high mean value of 270.22 with SD 50.26, whereas the Female covid-19 patients has obtained low mean value of 261.69 with SD 48.67 which clearly indicate that the Male covid-19 patients experiencing high Psycho-Physiological problems. From table-II the obtained t-value 0.574 is less than the table value 2.66. Which indicate not significant @ 0.05 levels. Hence, the Hypothesis-1 i.e., There would be significant differences between Male and Female covid-19 patients in their Psycho-Physiological state is rejected.

The first hypothesis predicted significant difference between Male and Female covid-19 patients in their Psycho-Physiological state. The t-value of 0.574 for the variable Gender is not significant. Based on the results the first hypothesis which predicted significant difference between male and female covid-19 patients in their Psycho-Physiological state is not accepted as warranted by the results.

Hypothesis-2: There would be significant differences between urban and rural Covid-19 Patients in their Psycho-Physiological sate.

Table-III: shows Mean's SD's and t- value for the variable Location with regarding Psycho-Physiological sate.

Variable	Sub-group	Mean's	SD's	t-value
Location	Urban	275.87	42.47	1.512@
	Rural	245.81	43.60	
@ not significant				

An observation of Table-III clearly indicate that the urban covid-19 patients has obtained high mean value of 275.87 with SD 42.47, whereas the rural covid-19 patients has obtained low mean value of 245.81 with SD 43.60 which clearly indicate that the urban covid-19 patients experiencing high Psycho-Physiological problems. From table-III the obtained t-value 1.512 is less than the table value 2.66. Which indicate not significant @ 0.05 levels. Hence, the Hypothesis-2 i.e., There would be significant differences between urban and rural covid-19 patients in their Psycho-Physiological state is rejected.

The Second hypothesis predicted significant difference between urban and rural covid-19 patients in their Psycho-Physiological state. The t-value of 1.512 for the variable Location is not significant. Based on the results the second hypothesis which predicted significant difference between urban and rural covid-19 patients in their Psycho-Physiological state is not accepted as warranted by the results.

Hypothesis-3: There would be significant differences between ages 20-40 and 41-60 Covid-19 Patients in their Psycho-Physiological sate.

Table-IV: shows Mean's SD's and t- value for the variable Age with regarding Psycho-Physiological sate.

Variable	Sub-group	Mean's	SD's	t-value
Age	20-40	281.85	41.13	2.189*
	41-60	253.05	42.20	
* significant @ 0.05 level				

An observation of Table-IV clearly indicate that the 20-40 age of covid-19 patients has obtained high mean value of 281.85 with SD 41.13, whereas the 41-60 age of covid-19 patients has obtained low mean value of 253.05 with SD 42.20 which clearly indicate that the 20-40 age of covid-19 patients experiencing high Psycho-Physiological problems. From table-IV the obtained t-value 2.189 is Greater than the table value 2.66. Which indicate significant @ 0.05 levels. Hence, the Hypothesis-3 i.e., There would be significant differences between 20-40 and 41-60 age of covid-19 patients in their Psycho-Physiological state is accepted.

The third hypothesis predicted significant difference between 20-40 and 41-60 age of covid-19 patients in their Psycho-Physiological state. The t-value of 2.189 for the variable Age is significant. Based on the results the third hypothesis which predicted significant difference

between 20-40 and 41-60 age of covid-19 patients in their Psycho-Physiological state is accepted as warranted by the results.

Hypothesis-4: There would be significant differences between married and unmarried Covid-19 Patients in their Psycho-Physiological sate.

Table-V: shows Mean's SD's and t- value for the variable Marital status with regarding Psycho-Physiological sate.

Variable	Sub-group	Mean's	SD's	t-value
Marital Status	Married	261.91	43.64	4.401**
	Unmarried	306.20	15.30	
** significant @ 0.01 level				

An observation of Table-V clearly indicate that the unmarried covid-19 patients has obtained high mean value of 306.20 with SD 15.30, whereas the married covid-19 patients has obtained low mean value of 261.91 with SD 43.64 which clearly indicate that the unmarried covid-19 patients experiencing high Psycho-Physiological problems. From table-V the obtained t-value 4.401 is greater than the table value 2.66. Which indicate significant @ 0.01 levels. Hence, the Hypothesis-4 i.e., There would be significant differences between married and unmarried covid-19 patients in their Psycho-Physiological state is accepted.

The fourth hypothesis predicted significant difference between married and unmarried covid-19 patients in their Psycho-Physiological state. The t-value of 4.401 for the variable marital status is significant. Based on the results the fourth hypothesis which predicted significant difference between married and unmarried covid-19 patients in their Psycho-Physiological state is accepted as warranted by the results.

Hypothesis-5: There would be significant relationships between Physiological sate and Psychological state with regards to socio demographic variables.

Table-VI: Shows the correlation matrix related to Physiological state and Psychological state variables.

S No	Variable	Physiological State	Psychological state
1	Gender	0.093	0.087
3	Location	0.239	0.178
4	Age	0.344*	0.156
5	Marital status	0.340*	0.050

Physiological state: The correlation matrix related to Physiological State and other Socio demographic variables are presented in Table VI. Result related to Physiological State shows that the gender (r = 0.093) is not significant associated with Physiological State and the Marital status (0.340*) is a significantly associated with Physiological State and the age (0.334*) is a significantly associated with Physiological state, and the Location (0.239) is no significant associated with Physiological state.

Psychological state: The correlation matrix related to Psychological State and other Socio demographic variables are presented in Table VI. Result related to Psychological State shows that the gender (0.087) is not significant associated with Psychological State and the Marital status (0.050) is a significantly associated with Psychological State and the age (0.156) is a significantly associated with Physiological state, and the Location (0.178) is not significant associated with Psychological state.

Conclusions:

- There is no significant difference between male and female Covid-19 Patients in their Psycho-Physiological sate.
- There is no significant difference between Rural and Urban Covid-19 Patients in their Psycho-Physiological sate.
- There is a significant difference between ages 20-40 and 41-60 Covid-19 Patients in their Psycho-Physiological sate.
- There is a significant difference between Married and Unmarried Covid-19 Patients in their Psycho-Physiological sate.
- There is a partially significant relationship between Physiological sate and Psychological state with regards to socio demographic variables.

REFERENCES

Ćosić, K., Popović, S., Šarlija, M., Kesedžić, I., & Jovanovic, T. (2020). Artificial intelligence in prediction of mental health disorders induced by the COVID-19 pandemic among health care workers. *Croatian medical journal*, *61*(3), 279.

Van Cutsem, J., Abeln, V., Schneider, S., Keller, N., Diaz-Artiles, A., Ramallo, M. A., & Gabriel, G. (2022). The impact of the COVID-19 lockdown on human psychology and physical activity; a space analogue research perspective. *International Journal of Astrobiology*, *21*(1), 32-45.

Nkurunziza, J. B., Busa, M., Gummeson, J., & Risinger, E. (2021, June). Psycho-physiological impedance matching through holistic closed-loop cyber-physical systems. In *Proceedings of the 2021 Workshop on Future of Digital Biomarkers* (pp. 51-54).

Martiusheva, V. I. (2021). Influence of noise load when using audio headphones on the psycho-physiological state of young people. *Medical Journal of the Russian Federation*, *27*(6), 555-560.

Ćosić, K., Popović, S., Šarlija, M., Kesedžić, I., Gambiraža, M., Dropuljić, B., ... & Jovanovic, T. (2021). AI-Based Prediction and Prevention of Psychological and Behavioral Changes in Ex-COVID-19 Patients. *Frontiers in psychology*, *12*.

Inshyna, N. M., Chorna, I. V., Hrebenyk, L. I., & Primova, L. O. (2022). The impact of the COVID-19 pandemic on mental health of medical students: gender aspects.

Xie, J., Liu, B., & Elsadek, M. (2021). How Can Flowers and Their Colors Promote Individuals' Physiological and Psychological States during the COVID-19 Lockdown?. *International Journal of Environmental Research and Public Health*, *18*(19), 10258.

He, L., Zhao, W., Gao, Y., Gao, X., & Lei, X. (2021). The effect of COVID-19 lockdowns on sleep time perception: Comparing actigraphy and sleep diary measures. *International Journal of Psychophysiology*, *167*, 86-93.
Afacan, Y. (2021). Impacts of biophilic design on the development of gerotranscendence and the Profile of Mood States during the COVID-19 pandemic. *Ageing & Society*, 1-25.
Huang, X., Liu, C., Chun, L. I. U., Wei, Z., & Leung, X. Y. (2021). How children experience virtual reality travel: a psycho-physiological study based on flow theory. *Journal of Hospitality and Tourism Technology*.
Grover, S., Sahoo, S., Mehra, A., & Nehra, R. (2020). Anxiety related to COVID-19 infection: An online survey among the general public in India. *Available at SSRN 3675335*.
Hamdan, M. E. O. M. (2021). *Psychological distress among nursing staff during COVID-19 Period in isolation hospitals in Khartoum state at 2020* (Doctoral dissertation, International University of Africa).
Ewing, G. W. (2022). SARS-COV-2: the COVID-19 Virus Overcomes the Immune Response in the 'at-risk'group and thereby Infects the Patient yet it is the Autonomic Response which is Most Significant and Determines the Extent and Severity of Infection. *Clin Rev Cases*, *4*(1), 1-5.
Nikopoulou, V. A., Holeva, V., Parlapani, E., Karamouzi, P., Voitsidis, P., Porfyri, G. N., ... & Diakogiannis, I. (2020). Mental health screening for COVID-19: A proposed cutoff score for the Greek version of the Fear of COVID-19 Scale (FCV-19S). *International Journal of Mental Health and Addiction*, 1-14.
Guo, X., Tavakoli, A., Robartes, E., Angulo, A., Chen, T. D., & Heydarian, A. (2022). Roadway Design Matters: Variation in Bicyclists' Psycho-Physiological Responses in Different Urban Roadway Designs. *arXiv preprint arXiv:2202.13468*.
COVID-19 corona virus pandemic. https://www.worldometers.info/coronavirus/. Accessed on 03-May-2020.
Asmundson GJG, Taylor S. Corona phobia: fear and the 2019-nCoV outbreak. J Anxiety Disord. 2020; 70:102196.
(COVID-19)pandemic. https://www.who.int/dg/speeches/detail/who-director-general-s-opening-re.... Accessed on 03-May-2020.
Taylor S. The Psychology of Pandemics: Preparing for the Next Global Outbreak of Infectious Disease. Newcastle Upon Tyne, UK: Cambridge Scholars Publishing; 2019.23–39.
Jones NM, Thompson RR, Dunkel Schetter C, Silver RC. Distress and rumor exposure on social media during a campus lockdown. Proc Natl Acad Sci. 2017;114:11663.
Torales J, O'Higgins M, Castaldelli-Maia JM, Ventriglio A. The outbreak of COVID-19 coronavirus and its impact on global mental health. Int J Social Psychiatrc. 2020;66(4):317-320.
Chew QH, Wei KC, Vasoo S, and Chua HC, Sim K. Narrative synthesis of psychological and coping responses towards emerging infectious disease outbreaks in the general population: practical considerations for the COVID-19 pandemic. Singapore Med J. 2020. https://doi.org/10.11622/smedj.2020046. [Epub ahead of print].

Mowbray H. In Beijing, corona virus 2019-nCoV has created a siege mentality. BMJ. 2020; 368:m516.
Garfin DR, Silver RC, Holman EA. The novel corona virus (COVID-2019) outbreak: Amplification of public health consequences by media exposure. Health Psychol. 2020; 39:355-357.