

Comparative Assessment of Trends of Social Anxiety and Social Avoidance during First and Second Wave of Covid-19 among Medical Students

MIRZA ZEESHAN SIKANDAR¹, MUHAMMAD ABU BAKAR², HARIS ALEEM³, ANEEZA TUFAIL⁴, AIMAN FATIMA⁵, MUHAMMAD UMAR FAROOQ⁶

¹Department of Medicine, Central Park Medical College, Lahore.

²MBBS Student, Central Park Medical College, Lahore.

³Shifa International Hospital, Islamabad

⁴Rhaber Medical College, Lahore.

⁵MBBS Student, Department of Community Medicine, Central Park Medical College, Lahore.

⁶Department of Medicine, Central Park Medical College, Lahore.

Correspondence to Dr. Mirza Zeeshan Sikandar, Email: m.zee.shan@hotmail.com, Tel. +92-336-8656736

ABSTRACT

Background: Corona virus disease 2019 (COVID-19) was first reported in China and became the global pandemic. This pandemic has proven fatal for the world and lasts drastic effects on the whole world. To combat with this hilarious pandemic, the whole world has adopted the strategy of social distancing and precautionary measures.

Aim: To compare trends of social anxiety and avoidance during covid wave 1 and covid wave 2.

Methodology: A cross-sectional study was conducted at Central Park Medical College from October 2020 and January 2021. To assess social avoidance and anxiety LIEBOWITZ Social Anxiety and avoidance Scale was employed. Paired sample t test and correlation was used to compare mean differences. A p value less than 0.05 were considered significant.

Results: There was a reduction of score of social anxiety from covid wave 1 and wave 2 (26.73 ± 4.65 , 17.86 ± 3.81) with p value of .001 and similarly there was a reduction of score of social avoidance (25.31 ± 0.597 v/s $15. \pm 0.3390$) as well from wave 1 to wave 2 with p value of .001

Conclusion: There is a continuous decline in social avoidance and social anxiety which can cause an increase in covid 19 infection rate in order to combat that there's need of prompt vaccination along with the precautionary measures to combat covid pandemic.

MeSH Words: Covid-19, Social anxiety, social avoidance, covid wave.

INTRODUCTION

Coronaviruses are a large family of respiratory viruses, known to effect respiratory system ranging from the common cold to more severe illnesses¹ such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS)². Its symptoms vary from simple fever to severe lung infection, central neuropathy leading to anosmia, ageusia, and cytokine storm causing myocarditis³. COVID-19 balloons up in the whole world too rapidly that the WHO has declared it as a global pandemic on March 11, 2020³. It is a transmissible disease that it spreads from one person to another person via aerosol droplets, so the immediate and best way to handle this outbreak is to minimize the spread of virus by adopting every possible way such as hygiene hypothesis (use of mask), self-isolation, social distancing, frequent use of disinfectants etc⁴.

The world has faced two to three different waves of COVID-19. The numbers of patient varied in these waves and the most of countries were greatly affected by the second wave of covid-19 including Pakistan and India⁵. Pakistan has reported first patient on February 26, 2020. Pakistan has faced three different covid waves and the first wave was experienced by Pakistan in late May 2020, second wave in October 2020 and third wave in March 2021⁶. Pakistan has been fighting with all these three different waves of covid-19 with the strategy of lockdown that was followed by the whole world during this pandemic. This pandemic has proven fatal for the world and lasts drastic effects on the whole world and to combat these waves strategy of lockdown was adopted globally by all countries including Pakistan. Thus lockdown was imposed on the public to protect them from covid-19 has left the long lasting effects of psychological implications such as social avoidance and social anxiety⁷. The long period of lockdown during which the social activities of whole community almost reduced to zero affected the people's mental health and increased social anxiety. By these safety measures social interaction among people is

reduced to nearly zero, as social avoidance is being practiced as new normal in this situation so people start developing the habit of living alone avoiding social interactions to prevent contact⁸.

Social Anxiety Disorder is actually social phobia in which person suffering from it feel fear or discomfort in gatherings, social interactions, and being scrutinized by other people⁹. It is common that we flee from the place where we feel fear from anything. As people start social avoidance to protect themselves from covid-19. The lockdown has increased the social anxiety in people as they were totally away from each other during those days when people with social anxiety disorder come into public places, they start feeling they have lost their comfortable zone and thus try to avoid going into public places¹⁰. The symptoms of social anxiety disorder manifest physically and psychologically ranging from symptoms of social anxiety including nausea, excessive sweating, tachycardia, shivering, etc¹¹.

Social anxiety and social avoidance are the leading psychological disorders resulted from the lockdown. After the end of the long lockdown, the people who were, before lockdown, socially active they suddenly started feeling anxiety by social exposure and going back to their community¹². But impact of lockdown on trends of social avoidance and anxiety during covid-19 waves has not been investigated fully and data of local populace is lacking. Therefore we warrant this study to investigate trends of social avoidance and anxiety during covid wave one and second covid wave.

METHODOLOGY

A cross-sectional analytical study was conducted at Central Park Medical College from May 2020 to January 2021 to assess and compare of trends of social anxiety and social avoidance in medical students during covid first and second wave. In this online survey, 464 medical students of all the five years participated with the age range of 17 to 28 years. Study was approved by institutional review board of Central Park Medical College, Lahore and ethical letter (CPMC/IRB-No/1292) was obtained. An online questionnaire using google forms was made and informed consent

Received on 17-02-2022

Accepted on 11-07-2022

was obtained and questionnaire was surveyed from May 2020 to July 2020 for responses during first covid wave and same participants were surveyed during October 2020 to January 2021 for responses of second wave. Questionnaire was circulated via participant's emails and through advertisement on social media especially on whatsapp. This data collection technique was employed to ensure safety and convenience of study participants.

A detailed questionnaire was surveyed and socio demographic information was attained using google forms. Basic information about number of family members, rooms in house, self-quarantine, self-isolation and covid positivity rate was also recorded. For assessment of social anxiety and social avoidance Leibowitz Social Anxiety Scale (LSAS) scale was employed (13). It a 24 items Likert scale based questionnaire with the score range of 0 to 3 reflecting no anxiety to severely anxious while that situation. Similarly the scores for social avoidance reflecting no impact on social activates to severely affected social activity was recorded in terms of 0 to 3.

Statistical Analysis: Online responses were exported in excel sheets and scores for social anxiety and avoidance was computed and data was exported to SPSS Version 23 and was duly compared and checked for errors. Qualitative was presented in bar charts and pie charts and frequency and percentages were computed and compared. For scores of LSAS, normality of data was assessed using Shapiro-Wilk test and paired sample analysis was used. Paired sample t test and correlation was employed to assess mean differences and correlation of scores of social avoidance and anxiety during first and second covid wave. A p value less than .05 was regarded as significant.

RESULTS

The mean age of all study participants (n=464) was 21.83 ± 3.01. Among study participants (n=464), 140 were males while 324 were females. On precautionary measures 87% (n= 404) of medical students self-isolated themselves during first covid wave while 37% (n=172) of total study population made them self quarantined during first wave of covid-19. There was a reduction of score of social anxiety from covid wave 1 and wave 2 (26.73±4.65 v/s 17.86±3.81) with p value of .001 and similarly there was a reduction of score of social avoidance (25.31 ± 0.597 v/s 15.190 ±0.3390) as well from wave 1 to wave 2 with p value of .001 as explained in table 1 and depicted in figure 1.

Table 1: Comparison of Scores of Social Anxiety and Social Avoidance using Paired Sample t Test.

Study Parameters	Mean±St. Dev.		P value
	Covid Wave 1	Covid Wave 2	
Social Anxiety	26.73±4.65	17.86±3.81	.001*
Social Avoidance	25.31±0.597	15.190±0.33	.001*

Pvalue less than .05 is significant

On appliance of paired sample t test, a reduction of scores of anxiety and avoidance was noted as explained in table 1 and figure 1. Similarly on appliance of paired sample t correlation a strong correlation in lowering avoidance and anxiety trends with passing waves of covid-19 was established. Correlation in the reducing trends of social avoidance with p value of 0.0001 and r value is 0.918. Correlation in reducing for social anxiety was also significant with r value of .827 p value .0001 as explained in table 2 and figure 2.

Table 2: Correlation of study parameters with covid-19 waves using Paired Sample t Test.

Study Parameters	r-value	p-value
Social Anxiety	0.918	.0001*
Social Avoidance	0.827	.0001*

p-value less than .05 is significant

Figure 1. Comparison of Score of Social Anxiety and Avoidance during first & second wave of covid-19.

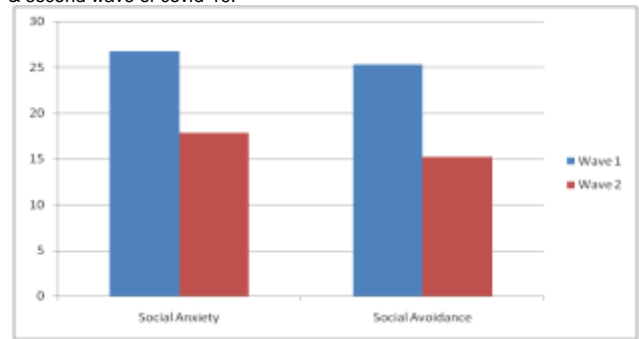
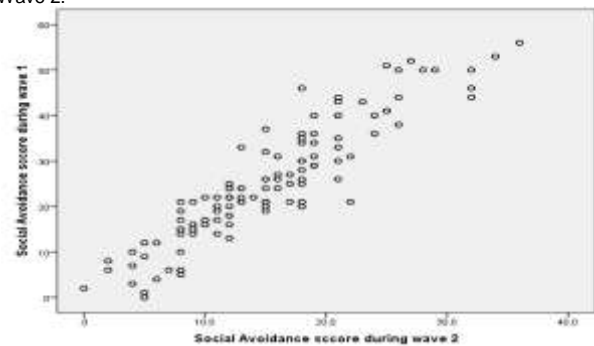


Figure 2. Explaining Trends of Social Avoidance in Covid wave 1 and Covid Wave 2.



DISCUSSION

When the whole world was under the attack of covid-19, the strategy of lockdown was utilized by the governments to slow down its spread. But this lockdown left its adverse effects on mental health of people¹⁴. People become more vulnerable to social anxiety and social avoidance due to lockdown (15) and self-isolation strategies to stop the infection further. In this study it has been shown that the score of social anxiety and avoidance was higher during the first covid-19 wave (i.e. 26.73±4.65 and 25.31±0.597) respectively which is coincident previous studies have shown that social anxiety and avoidance is more in adolescents (16) which is also proven in this study as the major target of our study was student community of medical college. As during the covid-19 lockdown health workers along with medical students were also isolated as they were taking care of covid patients continuously, the health workers also experienced the social anxiety (17). The mental health issues became a serious concern after the prolong lockdown. The students (patient of covid-19 especially) were suffering from social anxiety and avoidance¹⁸ faced utmost difficulty to start their normal life again as they were restrained to their rooms for long time and they started consider themselves under threat of the society which judge them. The score of social anxiety and avoidance was also raised during the first wave because the students in touch with covid-19 patients were also to go under self-isolation and the behavior of society towards them who were not suffering from covid-19 even but just because they were friends or family member to the suffered one.

In the start the strategy of lockdown and self-isolation was new for everyone, the analysis have shown that the rate of symptoms of social anxiety and avoidance were high in medical students¹⁹. During the first covid-19 wave, social anxiety score raised in students due to fear of being the source of covid-19 to their family and friends. The lockdown and self-isolation increase this fear in the students. Each person who was infected by corona virus during first wave was suffering from the fear of expected behavior of society after his recovery, the leading cause of social

anxiety and avoidance in the patients and even the health workers who were taking care of the covid patients.

The social anxiety symptoms were reduced in the students during the second wave. Because during the second covid-19 wave as everyone was well aware of the strategy of lockdown and covid-19, the score of social anxiety and avoidance was dramatically reduced in students (i.e. 17.86 ± 3.81 and 15.190 ± 0.33 respectively). The analysis of our questionnaire has shown that due to better awareness in students during the second Covid-19 wave helped them to control their mental health during the self-isolation and lockdown. The students know that they would be welcomed by the society after their recovery because of which the score of social anxiety and avoidance reduced during second covid-19 wave. It was satisfactory that the community and students started understanding the danger of covid-19 and they were ready to welcome back the person who were suffering from the disease, previously. The score of social anxiety and avoidance during second wave was reduced also due to the change in strategy of lockdown into smart lockdown to isolate only the patients and targeted persons. The government awareness policy²⁰ of covid-19 also help the people to develop the narrative about covid-19 that it's just an infection like others but the endemic so we have to live our lives with it. There were a few limitations of study including small sample size, relying on responses of participants, and change in circumstances from covid wave one and second wave.

CONCLUSION

Social anxiety and social avoidance is serious mental health problem which is faced by the patients and even by the people who didn't suffer by SARS-COV2. There is a continuous decline in social avoidance and social anxiety which can cause an increase in covid 19 infection rate in order to combat that there's need of prompt vaccination along with the precautionary measures to combat covid pandemic.

Conflict of interest: Nil

REFERENCES

- Umakanthan S, Sahu P, Ranade AV, Bukelo MM, Rao JS, Abrahao-Machado LF, Dahal S, Kumar H, Kv D. Origin, transmission, diagnosis and management of coronavirus disease 2019 (COVID-19). *Postgrad Med J*. 2020 Dec;96(1142):753-758. doi: 10.1136/postgradmedj-2020-138234. Epub 2020 Jun 20. PMID: 32563999.
- Habas K, Nganwuchu C, Shahzad F, Gopalan R, Haque M, Rahman S, Majumder AA, Nasim T. Resolution of coronavirus disease 2019 (COVID-19). *Expert Rev Anti Infect Ther*. 2020 Dec;18(12):1201-1211. doi: 10.1080/14787210.2020.1797487. Epub 2020 Aug 4. PMID: 32749914.
- Alanagreh L, Alzoughool F, Atoum M. The Human Coronavirus Disease COVID-19: Its Origin, Characteristics, and Insights into Potential Drugs and Its Mechanisms. *Pathogens*. 2020 Apr 29;9(5):331. doi: 10.3390/pathogens9050331. PMID: 32365466; PMCID: PMC7280997.
- Sikandar MZ, Fatima A, Shah SIA. Past, present and future of Covid-19 pandemic; review of the pathophysiology and clinical management. *Ann Clin Anal Med* 2021;12(7):822-8.
- Lo AW, Tang NL, To KF. How the SARS coronavirus causes disease: host or organism? *J Pathol*. 2006 Jan;208(2):142-51. doi: 10.1002/path.1897. PMID: 16362992; PMCID: PMC7168100.
- He X, Cheng X, Feng X, Wan H, Chen S, Xiong M. Clinical Symptom Differences Between Mild and Severe COVID-19 Patients in China: A Meta-Analysis. *Front Public Health*. 2021 Jan 14;8:561264. doi: 10.3389/fpubh.2020.561264. PMID: 33520906; PMCID: PMC7841395.
- Sikandar MZ, Bajwa BH, Zahid H, Ali S, Iqbal S, Shah SIA. Knowledge, Attitude, and Practice Trends Towards Covid-19 Pandemic: Comparison Between Individuals with Medical and Non-Medical Backgrounds. *Proceedings S.Z.M.C [Internet]*. 2021 Apr;21;35(2):7-13. <https://doi.org/10.47489/PSZMC784-35-2-7-13>. Available from: <https://www.proceedings-szmc.org.pk/index.php/szmc/article/view/97>
- Smith DS, Richey EA, Brunetto WL. A Symptom-Based Rule for Diagnosis of COVID-19. *SN Compr Clin Med*. 2020 Oct 24;1-8. doi: 10.1007/s42399-020-00603-7. Epub ahead of print. PMID: 33134843; PMCID: PMC7584484.
- Esakandari H, Nabi-Afjadi M, Fakkari-Afjadi J, Farahmandian N, Miresmaeili SM, Bahreini E. A comprehensive review of COVID-19 characteristics. *Biol Proced Online*. 2020 Aug 4;22:19. doi: 10.1186/s12575-020-00128-2. PMID: 32774178; PMCID: PMC7402395.
- Çalica Utku A, Budak G, Karabay O, Güçlü E, Okan HD, Vatan A. Main symptoms in patients presenting in the COVID-19 period. *Scott Med J*. 2020 Nov;65(4):127-132. doi: 10.1177/0036933020949253. Epub 2020 Aug 17. PMID: 32807018.
- Garg N, McClafferty B, Ramgobin D, Golamari R, Jain R, Jain R. Cardiology and COVID-19: do we have sufficient information? *Future Cardiol*. 2021 Jul;17(4):705-711. doi: 10.2217/fca-2020-0126. Epub 2020 Oct 30. PMID: 33124920; PMCID: PMC7597579.
- Ng JH, Bijol V, Sparks MA, Sise ME, Izzedine H, Jhaveri KD. Pathophysiology and Pathology of Acute Kidney Injury in Patients With COVID-19. *Adv Chronic Kidney Dis*. 2020 Sep;27(5):365-376. doi: 10.1053/j.ackd.2020.09.003. Epub 2020 Oct 20. PMID: 33308501; PMCID: PMC7574722.
- Heimberg RG, Horner KJ, Safren SA, Brown EJ, Schneier FR, Liebowitz MR. Psychometric properties of the Liebowitz Social Anxiety Scale. *Psychol Med*. 1999 Jan;29(1):199-212. doi: 10.1017/s0033291798007879. PMID: 10077308.
- Elmer T, Mephram K, Stadtfeld C. Students under lockdown: Comparisons of students' social networks and mental health before and during the COVID-19 crisis in Switzerland. *PLoS One*. 2020 Jul 23;15(7):e0236337. doi: 10.1371/journal.pone.0236337. PMID: 32702065; PMCID: PMC7377438.
- Brenner MH, Bhugra D. Acceleration of Anxiety, Depression, and Suicide: Secondary Effects of Economic Disruption Related to COVID-19. *Front Psychiatry*. 2020 Dec 15;11:592467. doi: 10.3389/fpsy.2020.592467. Erratum in: *Front Psychiatry*. 2021 Feb 19;12:660659. PMID: 33384627; PMCID: PMC7771384.
- Gill C, Watson L, Williams C, Chan SWY. Social anxiety and self-compassion in adolescents. *J Adolesc*. 2018 Dec;69:163-174. doi: 10.1016/j.adolescence.2018.10.004. Epub 2018 Oct 13. PMID: 30326397.
- Fountoulakis KN, Apostolidou MK, Atsiova MB, Filippidou AK, Florou AK, Gousiou DS, Katsara AR, Mantzari SN, Padouva-Markoulaki M, Papatriantafyllou EI, Sacharidi PI, Tonia AI, Tsalgalidou EG, Zymara VP, Prezerakos PE, Koupidis SA, Fountoulakis NK, Konsta A, Tsapakis EM, Theodorakis PN, Mossialos E. Mental health and conspirasism in health care professionals during the spring 2020 COVID-19 lockdown in Greece. *Acta Neuropsychiatr*. 2021 Dec 10:1-16. doi: 10.1017/neu.2021.38. Epub ahead of print. PMID: 34886920; PMCID: PMC8770848.
- Kaparounaki CK, Patsali ME, Mousa DV, Papadopoulou EVK, Papadopoulou KKK, Fountoulakis KN. University students' mental health amidst the COVID-19 quarantine in Greece. *Psychiatry Res*. 2020 Aug;290:113111. doi: 10.1016/j.psychres.2020.113111. Epub 2020 May 19. PMID: 32450416; PMCID: PMC7236729.
- Risal A, Shikhrakar S, Mishra S, Kunwar D, Karki E, Shrestha B, Khadka S, Holen A. Anxiety and Depression during COVID-19 Pandemic among Medical Students in Nepal. *Kathmandu Univ Med J (KUMJ)*. 2020 Oct-Dec;18(72):333-339. PMID: 34165087.
- Xu H, Gonzalez Mendez MJ, Guo L, Chen Q, Zheng L, Chen P, Cao X, Liu S, Sun X, Zhang S, Qiao Y. Knowledge, Awareness, and Attitudes Relating to the COVID-19 Pandemic Among Different Populations in Central China: Cross-Sectional Survey. *J Med Internet Res*. 2020 Oct 15;22(10):e22628. doi: 10.2196/22628. PMID: 32886623; PMCID: PMC7572115.