

# “Psychological Resilience, Burnout and Secondary Traumatic Stress among Doctors in Covid-19 pandemic”

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## ABSTRACT

Pakistan is among the countries affected during the period of Covid-19 pandemic. A high prevalence of psychological distress was observed among the general population as well as doctors in this outbreak.

### Aims & Objectives:

This research was conducted to study the relationship of psychological resilience, burnout and secondary traumatic stress among doctors in COVID-19 pandemic. It also identified the mediating effect of burnout between the relationship of psychological resilience and secondary traumatic stress.

### Patients and Method:

It is a descriptive study with purposive sampling strategy and correlational research design. The sample comprised of 100 doctors from two hospitals of Lahore between September 2020 to February 2021. Participants age range was between 25-40 years. Data was collected by using the following tools, The Brief Resilience Scale (Smith et al., 2008), Secondary Traumatic Stress Scale (Bride et al., 2004), and Oldenburg Burnout Inventory (Halbesleben & Demerouti, 2005).

### Results:

Results have signified a negative relationship of psychological resilience with secondary traumatic stress and burnout. Burnout has a significant positive relationship with secondary traumatic stress. Moreover, both subscales of burnout (i.e. disengagement and exhaustion) emerged as mediators in the relationship between one subscale of secondary traumatic stress (i.e. intrusion) and psychological resilience.

**Conclusion:** It is concluded that psychological resilience has a significant negative relationship with burnout and secondary traumatic stress. Future researches can design emotional coping strategies and should try to promote programs that can help doctors to enhance resilience so it helps them combat their stress and burnout.

**Keywords:** Psychological resilience, Covid-19, Secondary traumatic stress, burnout

## INTRODUCTION

In Wuhan, China there was an outbreak of corona virus in December 2019 which spread all over the world. With the increasing number of cases of coronavirus, fear increased because it could be transmitted from person to person. In this prevailing situation medical health workers including doctors, nurses and other staff members have been working recklessly day and night to save human lives. The stress is very much on the health sector but despite the chaos, hospitals are providing healthcare facilities to Covid-19 patients. Therefore, normalization of all frontline Covid-19 doctors is necessary to avoid uncertainties surrounding this pandemic to improve their reactions and performance<sup>1</sup>.

Worldwide spread of corona virus had a negative effect and brings in a lot of stress to individuals. Concept of resilience in social sciences is taken as an individual trait that helps to overcome stress. We may not be born with this trait but our experiences contribute in its development. At times our system does not allow us to be resilient because of the new vulnerabilities, incompetence or other pressures<sup>2</sup>. According to Bottrell<sup>3</sup> resilience is defined as the ability to adjust or adapt to any disturbance and bounce back from any stressful situation. Psychological resilience is a personal characteristic and a complex phenomenon; it helps us to cope with difficult times, failures and negative emotions.

In Pakistan especially, doctors working in rural areas have different scores of burnout and resilience and likewise those who work in urban areas have different reasons of experiencing stress and burnout because the challenges they face in rural and urban areas vary at many levels. Moreover, their mainstream general practice and clinical practice also make them more prone to facing burnout. In all this resilience becomes a necessary trait for all doctors since it will benefit them in their profession. <sup>4</sup> During Covid-19 pandemic doctors were operating at two different fronts that is personal, where they were practicing their self-control, problem solving and decision making in their own capacity in terms of how they managed their work. The other was at doctor-patient relationship where they could not blame the patients for their conditions. Hence, they got closer to burnout and their coping strategies were not able to compensate their conditions.<sup>5</sup>

Stevenson and colleagues<sup>4</sup> stated in their study that during this pandemic there was a need to conduct a research on doctors since they are the frontline heroes in the prevailing situation. Psychological resilience helps doctors cope with challenging circumstances but what matters is the psychological interpretation of the emerging challenge. Still little research is available that focuses on manifestation and how to improve psychological resilience among doctors<sup>6</sup>.

The term ‘Burnout’ is one of the major concerns in health care departments that affects doctor’s well-being.

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Other studies<sup>7,8</sup> gave the concept of suffering from an emotional overload known as 'burnout syndrome,' experienced due to workplace load and stress. Doctors experiencing burnout have reduced professional efficacy and they observe feelings of energy depletion while on duty. Lemaire and Wallace<sup>9</sup> stated that doctors are exposed to various levels of stress in their day-to-day routine because of the nature of their job especially those who are working with even more critically ill patients in medical intensive care units or during Covid-19 pandemic are at a greater risk of being frustrated or distressed. A balance between the demands of the situation and the resources they possess be maintained. Whenever there is an imbalance, it will lead to negative consequences that can lead to reduced self-efficacy, work performance and patient safety.

Secondary traumatic stress is an indirect trauma exposure that happens due to continuous contact with individuals who have experienced primary trauma. It has been identified in many professions especially health care professionals. It becomes unavoidable because their exposure is prolonged. Symptoms of secondary traumatic stress in doctors include insomnia, irritability, anger, lack of enjoyment and at times reliving experiences of their patients.

Many models have been used to explain that health care professionals undergo secondary traumatic stress.<sup>10,11</sup> These frameworks identify the roles of an organization, its mediating factors and presence of social support in the workers which possibly had a role to play in developing secondary traumatic stress. They explain how an individual and its environment are related with secondary traumatic stress. It is a subjective phenomenon based on physiological, psychological and behavioural consequences. The reason behind secondary traumatic stress is low resilience or higher levels of burnout<sup>12</sup>.

Oginska-Bulik and Michalska<sup>13</sup> conducted a research to access the relationship among three variables i.e. job burn out, secondary traumatic stress and psychological resilience among nurses who have worked with critically sick patients. The research also aimed to see if burnout could be a mediating variable in the relationship between secondary traumatic stress and psychological resilience. Age range of participants was between 22 to 72 years. Results indicated that job burnout was highly related with secondary traumatic stress. A negative relationship of resilience was established with other variables. Results also proved that job burnout turned out to be a mediating variable in relationship with stress and resilience.

## AIMS & OBJECTIVES

1. To determine the relationship of psychological resilience, burnout and secondary traumatic stress among doctors in COVID-19 pandemic.
2. To identify the mediating effect of burnout between the relationship of psychological resilience and secondary traumatic stress.

## PATIENTS AND METHODS

It was an observational descriptive study and a sample size of 100 doctors, working with corona patients were enrolled from the Ittefaq Hospital and the Children's Hospital and

the Institute of Child Health, Lahore. Doctors aged between 25 to 40 years and who currently worked with corona patients were selected. Doctors who were doing house job or had undergone any psychological therapy were excluded. Purposive sampling strategy was used. Correlational research design was used in the present research. G-power was used to calculate the sample size for the study.

**Measures:** The Brief Resilience Scale Smith et al.<sup>14</sup> comprising of 6 items was used. Each item of the questionnaire has to be rated on a 5-point scale. It is designed to access resilience as the ability to revert back from stress. Cronbach alpha value is 0.85. Oldenburg Burnout Inventory (Halbesleben & Demerouti, 2005)<sup>15</sup> comprises of 16 items. Each item of the questionnaire has to be rated on a 4-point scale. It comprised of two subscales, exhaustion and disengagement. It is designed to measure burnout on a wider variety of occupations. Cronbach alpha value is 0.70. Secondary Traumatic Stress Scale Bride et al.<sup>16</sup> is a self-report questionnaire that is designed to measure the frequency of symptoms associated with secondary traumatic stress. It has a total of 17 items with three subscales, intrusion, arousal and avoidance. Each item on the questionnaire has to be rated on a 5-point scale. Cronbach alpha value is 0.93.

All participants were told about the nature and purpose of the study. All of them filled the informed consent form. The right to withdraw was given to all the participants. Moreover, participants were assured that their information will be kept confidential and will only be used for research purpose.

**Statistics:** The SPSS- version 22 was used for analyses of the results. Pearson Product Moment Correlation was used to identify the relationship of psychological resilience and burnout with secondary traumatic stress among doctors in Covid-19 pandemic. Mediation analysis was run to find out whether burnout acts as a mediating variable between the relationship of psychological resilience and secondary traumatic stress among doctors in covid-19 pandemic.

## RESULTS

In this study total 100 participants were enrolled. Amongst them, 62 % (62) were female and 38% (38) were male. Among doctors 76% (76) were FCPS and 24% (24) were post graduate trainees. In the total sample 62% were married and 38% were unmarried. The results in this study indicated there is negative relationship of psychological resilience with three subscales of secondary traumatic stress (i.e. intrusion, avoidance and arousal). This means when psychological resilience increases, the likelihood of secondary traumatic stress (i.e. intrusion, avoidance and arousal) decreases. The results also indicated that there is significant negative relationship of psychological resilience with burnout that is (disengagement and exhaustion). This means that when psychological resilience increases the likelihood of burnout that is (disengagement and exhaustion) decreases among doctors in COVID-19 pandemic (Table 1). The results also indicated that there is significant positive relation of burnout (i.e. disengagement and exhaustion) with secondary traumatic stress (i.e. intrusion, arousal and avoidance). This means that when disengagement and exhaustion increase, the likelihood of

intrusion, avoidance and arousal also increases among doctors in COVID-19 pandemic.

Mediation analysis were done to find out the mediating role of burnout (i.e. disengagement and exhaustion) between the relationship of psychological resilience and three dimensions of secondary traumatic

stress (i.e. intrusion, avoidance and arousal). There was a significant indirect effect of psychological resilience on intrusion through exhaustion,  $ab = -.26$ , BCa CI  $[-.39, -.16]$ . (Figure 1&2)

Table 1: Descriptive Statistics and Correlation between Psychological Resilience, Burnout and Secondary Traumatic Stress among Doctors in COVID-19 Pandemic

Measures	N	M	SD	1	2	3	4	5	6
1. PR	100	.381	.95	-					
2. Disengagement	100	2.27	.41	-.53***	-				
3. Exhaustion	100	2.45	.52	-.58***	.82***	-			
4. Intrusion	100	1.94	.92	-.34***	.50***	.49***	-		
5. Avoidance	100	2.18	.71	-.29**	.28**	.25**	.51***	-	
6. Arousal	100	2.26	.85	-.31**	.26**	.27**	.50***	.83***	-

Note: M=Mean, SD=Standard Deviation, PR= Psychological Resilience, In Psychological Resilience 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, In Disengagement and Exhaustion 1=Strongly Agree, 2=Agree, 3=Disagree, 4=Strongly Disagree, In Intrusion, Avoidance and Arousal 1=Never, 2=Rarely, 3=Occasionally, 4=Often, 5=Very Often, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  (one-tailed).

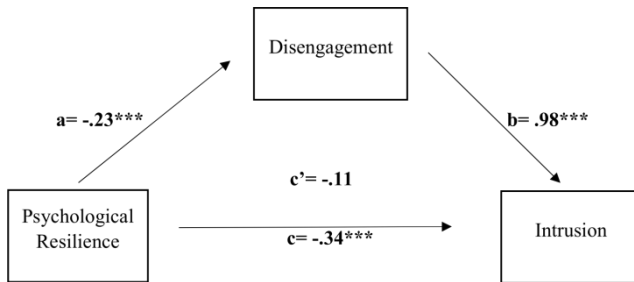


Figure 1: It show a model of relationship between psychological resilience, disengagement and intrusion. a is the coefficient between independent variable and mediator (indirect effect), b is the coefficient between mediator and dependent variable (indirect effect), c is the coefficient between dependent and independent variable (total effect) and c' is the coefficient between dependent and independent variable (direct effect) \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

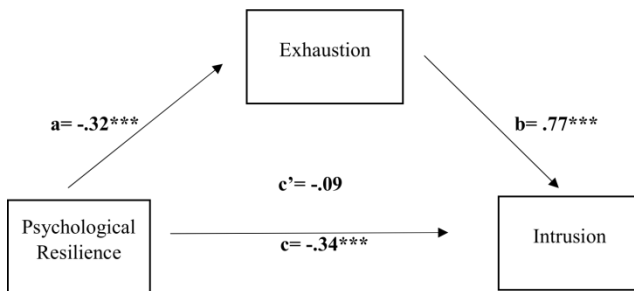


Figure 2: It shows model of relationship between psychological resilience, exhaustion and intrusion. Abbreviations as in Figure 1. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

## DISCUSSION

The current study has supported the hypothesis and showed that psychological resilience has a negative relationship with all three dimensions of secondary traumatic stress (i.e. intrusion, avoidance and arousal). Empirical evidence by McGarry et al.<sup>17</sup> showed that higher scores on resilience lead to lower secondary traumatic stress. It means that the health professionals who presented themselves with more symptoms of secondary traumatic stress they showed lower levels of resilience.

Research findings of Zou et al.<sup>18</sup> also supported the research findings by concluding that a negative relation was obtained between psychological resilience and stress. O'Dowd et al.<sup>19</sup> revealed the findings of his study that psychological resilience in physicians was very lower as compared to secondary traumatic stress because the physicians clearly were not able to understand resilience and they termed is as an ability to cope rather than to thrive after any stressful situation. Hence the insight about resilience of physicians could have been a reason for lower resilience.

Another hypothesis was that psychological resilience is likely to have a significant negative relationship with burnout among doctors in covid-19 pandemic. The result of this study supports the hypothesis and showed that psychological resilience has a negative relationship with two dimensions of secondary traumatic stress (i.e. disengagement and exhaustion). A research by Kutluturkan et al.<sup>20</sup> supported the hypothesis of the current study by deducing a negative correlation between psychological resilience and subscales of burnout (i.e. disengagement and exhaustion). According to a systematic review of 182 studies higher rates of burnout were reported among 67% physicians which further revealed scores of subscales of burnout i.e. 72% of them scored higher on exhaustion and 68% scored higher on disengagement.<sup>21</sup>

The results of this study also found that there was a significant positive relationship between two subscales of burnout that is (disengagement and exhaustion) and three dimensions of secondary traumatic stress (i.e. intrusion, avoidance and arousal). A study by Khamisa et al.<sup>22</sup> revealed that burnout came to predict 27% variance for secondary traumatic stress. Another research also showed that secondary traumatic stress was found to be the highest predictor of burnout<sup>23</sup>. The findings of the current study were also supported by a research which showed that increased burnout lead to higher scores on all subscales of secondary traumatic stress such as 54% on arousal, 52% on avoidance and 46% showing intrusion symptoms.

It was hypothesized that burnout will mediate the impact of psychological resilience and secondary traumatic

stress among doctors in Covid-19 pandemic. The results showed that both subscales of burnout (i.e. disengagement and exhaustion) had a mediating effect on the relationship between psychological resilience and one subscale of secondary traumatic stress (i.e. intrusion). There was a significant indirect effect in relationship between psychological resilience and intrusion when disengagement and exhaustion mediated respectively, so the model became significant and the mediator indirectly increased the predictor value of the relationship between IV and DV thus increasing the effect size.

The study by Shoji et al<sup>24</sup> revealed a mediating impact of burnout between the relationship of psychological resilience and secondary traumatic stress thus, supporting the findings of the current research. While a research by Harker et al<sup>25</sup> showed that higher psychological resilience means lower secondary traumatic stress but job burnout (i.e. exhaustion) still remained a successful mediator in relationship with a subscale of secondary traumatic stress.

**Future Implications:** The future research must develop strategies to encourage emotional coping resources by designing programs to promote resilience so that doctors get well equipped in managing their stress levels and burnout.

## CONCLUSION

It is concluded that psychological resilience has a significant negative relationship with burnout and secondary traumatic stress. Whereas burnout was found to have a significant positive relationship with secondary traumatic stress among doctors in Covid-19 pandemic.

## REFERENCES

1. Wang C, Horby PW, Hayden FG, Gao GF. A novel coronavirus outbreak of global health concern. *The Lancet*. 2020;395(10223):470–3.
2. Collette A, Ungar M. Resilience of Individuals, Families, Communities, and Environments: Mutually Dependent Protective Processes and Complex Systems. *Systemic Research in Individual, Couple, and Family Therapy and Counseling*. 2020;:97–111.
3. Bottrell D. Understanding 'Marginal' Perspectives. *Qualitative Social Work*. 2009;8(3):321–39.
4. Stevenson AD, Phillips CB, Anderson KJ. Resilience among doctors who work in challenging areas: a qualitative study. *British Journal of General Practice*. 2011;61(588).
5. Harkness KL, Hayden EP. Introduction. *The Oxford Handbook of Stress and Mental Health*. 2019;:xvi-6.
6. Mills J, McKimm J. Resilience: why it matters and how doctors can improve it. *British Journal of Hospital Medicine*. 2016;77(11):630–3.
7. Paralis SK, Christodoulou P. Social welfare services staff burnout in Cyprus: Who is responsible? *International Journal of Social Welfare*. 2017;27(3):248–57.
8. Maslach C, Jackson SE. Maslach Burnout Inventory--ES Form. *PsyCTESTS Dataset*. 1981
9. Lemaire JB, Wallace JE. Burnout among doctors. *British Medical Journal*. 2017 Jul 14;358:j3360. doi: 10.1136/bmj.j3360. PMID: 28710272.
10. Kristensen TS, Borritz M, Villadsen E, Christensen KB. The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. *Work & Stress*. 2005;19(3):192–207.
11. Steele W. Reducing Compassion Fatigue, Secondary Traumatic Stress and Burnout.- A Trauma Sensitive Workbook (1<sup>st</sup> ed) 2019; Routledge. <https://doi.org/10.4324/9780429056734>
12. Ortlepp K, Friedman M. The Relationship between Sense of Coherence and Indicators of Secondary Traumatic Stress in Non-Professional Trauma Counsellors. *South African Journal of Psychology*. 2001;31(2):38–45.
13. Ogińska-Bulik N, Michalska P. Psychological resilience and secondary traumatic stress in nurses working with terminally ill patients—The mediating role of job burnout. *Psychological Services*. 2020;
14. Smith BW, Dalen J, Wiggins K, Tooley E, Christopher P, Bernard J. The brief resilience scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine*. 2008;15(3):194–200.
15. Halbesleben JR, Demerouti E. The construct validity of an alternative measure of burnout: Investigating the English translation of the Oldenburg Burnout Inventory. *Work & Stress*. 2005;19(3):208–20.
16. Bride BE, Robinson MM, Yegidis B, Figley CR. Development and Validation of the Secondary Traumatic Stress Scale. *Research on Social Work Practice*. 2004;14(1):27–35.
17. McGarry S, Girdler S, McDonald A, Valentine J, Lee S-L, Blair E, et al. Paediatric health-care professionals: Relationships between psychological distress, resilience and coping skills. *Journal of Paediatrics and Child Health*. 2013;49(9):725–32.
18. ZOU G, SHEN X, TIAN X, LIU C, LI G, KONG L, et al. Correlates of psychological distress, burnout, and resilience among Chinese female nurses. *Industrial Health*. 2016;54(5):389–95.
19. O'Dowd, E., O'Connor, P., Lydon, S., Mongan, O., Connolly, F, et al. Stress, coping, and psychological resilience among physicians. *BMC Health Service Research*. 2018. 18(1). doi:10.1186/s12913-018-3541-8
20. Kutluturkan S, Sozeri E, Uysal N, Bay F. Resilience and burnout status among nurses working in oncology. *Annals of General Psychiatry*. 2016;15(1).
21. Shaikh AA, Shaikh A, Rajesh D, Tahir A. Assessment of Burnout and its Factors Among Doctors Using the Abbreviated Maslach Burnout Inventory. *Cureus*. 2019; Cureus 11(2): e4101. doi:10.7759/cureus.4101
22. Khamisa N, Peltzer K, Ilic D, Oldenburg B. Effect of personal and work stress on burnout, job satisfaction and general health of hospital nurses in South Africa. *Health SA Gesondheid*. 2017;22:252–8.
23. Cooke GPE, Doust JA, Steele MC. A survey of resilience, burnout, and tolerance of uncertainty in Australian general practice registrars. *BMC Medical Education*. 2013;13(1).
24. Shoji K, Lesnierowska M, Smoktunowicz E, Bock J, Luszczynska A et al. (2015). What comes first, job burnout or secondary traumatic stress? Findings from two longitudinal studies from the U.S. and Poland. *PLOS ONE*. 2015;10(8), e0136730. doi:10.1371/journal.pone.0136730
25. Harker R, Pidgeon AM, Klaassen F, King S. Exploring resilience and mindfulness as preventative factors for psychological distress burnout and secondary traumatic stress among human service professionals. *Work*. 2016;54(3):631–7.