Prevalence of Neuropsychological risk factors among COVID-19 Survivors.

Hina Iqbal [1] Uzma Khattak[2] Rabia Naseer[3]

Abstract

The aim of the present study was to find out the prevalence of neuropsychological impairment in covid-19 survivors. The data was collected from covid-19 survivors from different public sector hospitals of Peshawar, KP. The total sample of the study was comprised of 100 covid-19 survivors with the age range of 20-40 years. Descriptive analysis was used to show that depression (28.80%) was the highest in covid-19 survivors followed by emotional problems (21.32%) and then sensory problems (18.98%). Memory problem (11.06%) was least affected than learning problems (13.38%). Present study gave some important aspect to mental health and medical practitioner for the treatment of covid-19 survivors.

Keywords:
Prevalence of neuropsychological impairment,Covid-19 survivors.

Introduction:

Concerning the novelty of COVID-19, much of the attention has been drawn to available medical treatments and guidelines. However, little research has been found to understand neuropsychological concerns (Vanderlind et al., 2021; Wilson, Betteridge, & Fish, 2020). Despite that, few studies have evidence that brain damage due to SARS-CoV-2

[1]Assistant Professor, Department of Psychology, Islamia College Peshawar
[2] Scholar,Department of Psychology,Islamia University Peshawar
[3]Lecturer, Department of Management Sciences, Islamia College Pesahwar

infection may lead to neuropsychological impairments (Ferrucci, 2021, Lojek et al., 2021).

A growing body of literature found neurocognitive dysfunction due to coronavirus (COVID-19) infection (Mendez et al, 2021; Whiteside et al, 2021). Significant behavioural, emotional, and cognitive deficient has also been identified among COVID-19 survivors. For instance, deficits in attention, memory problems, executive functioning, language and visuospatial orientation are common signs of neurocognitive disorder (Łojek et al., 2021). Moreover, a recent study identified 38% verbal memory and learning, 6% working memory, and 59% neurocognitive dysfunction.

The significant recovery of cognitive concerns has been found within several months. However, emotional problems may last for one year (Klinkhammer et al, 2021).

Tanquet et al (2020) found that COVID-19 survivors are at high risk of psychiatric sequelae. Further researching neuropsychological concerns among COVID-19 individuals contribute to understanding its risk factors and developing a neuropsychological clinical facility for the patients (Cysique et al., 2021). Therefore, the objective of this study is to identify the prevalence of neuropsychological risk factors among COVID-19 survivors. Concerning the novelty of COVID-19, there is limited literature to understand its influence on neuropsychiatric complications (Steardo & Verkhratsky, 2020).

However, few studies evident the association of COVID-19 with psychiatric disorders (Li & Wang, 2020; Steardo & Verkhratsky, 2020; Van der Meer et al., 2020; Zhang et al., 2020).

Methodology

Sample

The samples of one hundred (n=100) COVID-19 survivors were taken from Peshawar's public sector hospitals. It is comprised of fifty-one (n=51) female and forty-nine (n=49) males. Simple random sampling was used to collect data.

Instruments

A neuropsychological impairment scale (NPIS) was employed to identify major neuropsychological risk factors among COVID-19 survivors. It covers four constructs, i.e., emotional problem (10), learning problem (6), sensory and memory problem (8), mental and physical incoordination (4). The rest of the items (12) were adopted from the Siddiqui-Shah depression scale (SSD) (1977).

Procedure

Before collecting data, formal approval was granted from the public sector hospitals, Peshawar. Rapport was created among participants by sharing the objective of this study, where every participant signed an informed consent form to participate in the study. All participants were encouraged to give data honestly.

Results

Table. 1

Mean and Standard Deviation on the Measure of Neuropsychological Impairment in COVID-19 Survivors.

Neuropsychological Impairment	COVID-19 Survivors		
	N	M	SD
EP	100	21.32 (22.7%)	4.90
SDD	100	28.80 (30.7%)	5.53
SMP	100	18.98 (20.2%)	3.78
MP	100	11.06 (11.8%)	3.38
LP	100	13.38 (14.3%)	2.73

Note: EP= Emotional Problems, SDD= Siddiqui shah Depression scale, SMP=Sensory Motor Problem, MP=Memory Problems, LP=Learning Problems.

Discussion

This study aimed to determine the prevalence of neuropsychological problems in Covid 19 survivors. The major neuropsychological problem under investigation was emotional, depression, sensory-motor, memory, and learning problems.

New infectious cases were reported in Hubei, China in December 2019. Initially these reported cases were considered as of pneumonia (Lu et al., 2020). However, it was not the case.

Medical science declared this infectious virus as SARS-CoV-2 which was not only causing infection but also spreading the same rapidly. WHO Coronavirus Disease Dashboard, in September, declared that there are 26.5 million confirmed cases of Covid-19, whereas, it has caused 871 thousand deaths around the world (World Health Organization [WHO], 2020).

Astonishingly the governments focused on the infectious nature of the pandemic only. Whereas the other side of the picture is also very bleak. This disease has caused severe mental health disorders (Brooks et al., 2020; Holmes et al., 2020). It can be safely deduced from available statistics that this disease has caused more psychiatric, emotional, and behavioral disorders in people than infecting them. Emotional problems occur due to covid-19 because those who got infected seems to be more emotionally disturbed. It has been shown in the previous study (Jiao et al. 2020) that COVID-19 pandemic has severely affected the normal behavior and caused various feelings like depression, apprehension, fear, depression, and anxiety. One of the reasons of causing these feelings was the lengthy duration of disease around the world and limiting the usual routine of life. Another study also supporting the present study claim of emotional problem which was carried by (Montemurro 2020). The Author is of the opinion that the outbreak of pandemic is causing severe emotional distress and anxiety. These feelings are even experienced by those who are not at high risk of

contracting the disease. However, they are mentally disturbed by the same.

The current study aimed to find the prevalence of neuropsychological impairment in Peshawar, KP. After conducting the survey, it was found that depressive symptoms are highly prevalent in covid 19 survivors which was 30.7%. It was also indicated by a previous study that the prevalence of depressive symptoms in covid-19 patients was 38.7% which is a higher ratio than any other psychological problem (Hutan et al, 2021).

There are some reasons which are causing such mental disorder. These reasons include spreading nature of virus, stigmatizing the family by being carrier of the virus, isolation due to infection, such like other psychological pressures (Xiang et al., 2019). So the these reasons can be further elaborated by stating that this disorder might be caused by feeling burden of being carrier, feeling of rejection even within the family, non-responsive environment towards patient, uncertainty, fear of transmitting the disease to others and such like other reasons.

The prevalence of sensory-motor problems in the current study is 20.2 % which is a high percentage after depression. This is also indicated by another study conducted by Somekh (2020). Among persons who tested positive for COVID-19, the sensory sensation was significantly less impaired in children than in adults. This trend was even more explicit in comparing younger

children (of age 5–10 years), none of whom had sensory impairment, with their parents. Sensory impairment was significantly higher among adults>25 years of age than younger adults. The stepwise increase in taste and smell impairment with increased age suggests that the lower rates in children are not due to reporting bias but may reflect real differences.

Conclusion

The main aim of the study was to find the prevalence of neuropsychological impairment in coid-19 survivors. The neuropsychological impairment has different dimension i.e. Emotional Problems, Neuropsychological Depression, Sensory motor problems, memory problems and learning problems. In current study data was collected from those who have been diagnosed with Covid-19 and were in isolation. After collecting data and analysis it was observed that neuropsychological depression was higher in survivors. Afterward emotional problems were higher after depression. Sensory motor problems followed by emotional problem. Current study gave a glimpse of neuropsychological problems of Covid-19 survivors and in future medical and mental health practitioner will deal covid-19 survivors with neuropsychological perspective

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