

# Prioritization of patients with psychiatric comorbidities in vaccination during COVID-19 pandemic

*COVID-19 pandemisinde psikiyatrik komorbiditeleri olan hastaların aşılama önceliklendirilmesi*

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Dear Editor,

The novel coronavirus disease 2019 (COVID-19) pandemic originating in a Chinese town called Wuhan in December 2019, has led to more than 220 million cases and over 4.5 million deaths (1). Despite ongoing clinical studies no medication has been globally authorized in the treatment while various vaccination alternatives have been given emergency use authorization. Certain age groups and patients with medical comorbidities have been prioritized during vaccination process with more than 2 billion doses of vaccines administered globally so far. Nevertheless, psychiatric disorders have been neglected to be acknowledges as a medical comorbidity that requires vaccination priority with few exceptional countries (2, 3). Large scale studies have demonstrated higher rates of COVID-19 infection susceptibility in patients with psychiatric disorders compared to general population in addition to higher risk for COVID-19-related hospitalization, morbidity and mortality (4-11). Such increased risk may be attributable to altered immune response in patients with severe mental disorders as demonstrated by changes in pro-inflammatory and anti-inflammatory cytokines caused by either the nature of psychiatric condition itself or medications including anti-psychotics, lithium and anti-depressants (12-15). Higher rates of medical and physical comorbidities observed in psychiatric patients including cardiovascular diseases, smoking, obesity, chronic obstructive pulmonary disease and diabetes mellitus may be major confounding factor affecting this relationship (16, 17). Higher rates of medical comorbidities may be attributable to adverse effects of especially anti-psychotic medications such as clozapine and olanzapine through histaminergic, adrenergic and serotonergic system. Social isolation and lack of social support, stigmatization, poor socioeconomic status, difficulty in reaching medical care and negative beliefs regarding healthcare and vaccination, lower educational status are major risk factors along with immune dysregulation and higher rates of medical comorbidities encountered in psychiatric patients that makes psychiatric population vulnerable to COVID-19 pandemic. Therefore, we argue that psychiatric patients should be prioritized during

vaccination effort.

Another significant issue to be recognized is the risk of poor vaccination response in psychiatric patients due to interactions with psychiatric medications or immune dysregulated status. Although studies investigating COVID-19 vaccine antibody response in psychiatric patients are scarce, prior studies investigating response to Influenza and Varicella Zoster vaccines show poor response in such population (18, 19). Additionally, effect of COVID-19 on drug metabolism through interaction with cytochrome p450 mechanism should not be overlooked. Elevated levels of clozapine and symptoms of clozapine intoxication has been reported in a 51-year-old patient with schizoaffective disorder treated with clozapine (20). Hypothetical framework behind this interaction is the cytokine-mediated inhibition of CYP enzymes, in this case CYP1A2 which is the main CYP enzyme involved in the metabolism of clozapine (21, 22). Despite high rates of neuropsychiatric symptoms in the presentation or follow-up of COVID-19 infected patients, such adverse effects have rarely been reported following COVID-19 vaccination (23). A large scale meta-analysis study demonstrates significant rates of depressed mood (32.6%), anxiety (35.7%), insomnia (41.9%) and impaired memory (34.1%) in COVID-19 infected individuals at acute phase (24). Another study investigating post-COVID period in 236.379 patients shows 33.6% neuropsychiatric diagnosis in the following six-month period with 46.42% diagnosis rate in patients admitted to intensive care unit during acute phase (25). Despite such high rates of neuropsychiatric outcomes during and after COVID-19 infection, vaccination leads to almost no such effect. Therefore, vaccination appears to be safe in psychiatric patient population as well as the general population. Studies performed by Psychiatric Association of Turkey emphasize the need for vaccination in psychiatric patients similar to other patients with chronic medical comorbidities by analyzing studies performed especially in European countries (26-28). To conclude, we recommend prioritization of patients with psychiatric comorbidities during vaccination period and increased effort to vaccinate psychiatric inpatients.

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