



# Relapse in patients with serious mental disorders during the COVID-19 outbreak: a retrospective chart review from a community mental health center

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Dear Editor,

An outbreak, such as the coronavirus disease 2019 (COVID-19), may facilitate relapse of psychotic disorders through outcome, such as social distancing, lockdown or change in the priority of health services [1]. Besides the effects of the outbreak, lack of insight, non-adherence to treatment, poor social and cognitive functioning observed in psychotic disorders may make it difficult to maintain treatment [2].

Non-adherence to treatment is a major risk factor for relapse in individuals with schizophrenia or bipolar disorder [3, 4]. Using long-acting injectable antipsychotics (LAIs) may be a solution against the risk of relapse under outbreak conditions.

Community mental health centers (CMHCs) may be protective against the risk of relapse, but their delivery of care is also affected by the outbreak. They might have to develop and implement new interventions as the outbreak commands [5], but few evidence exists to design a relevant plan for relapse prevention [6] and to apply a sustainable clinical practice [7]. In this background, we aimed to detect the relapse rate of patients registered at Etimesgut CMHC, Ankara, to investigate the basic characteristics of patients who experienced relapse during the first trimester (from 10th of March to 10th of June) of the COVID-19 outbreak in Turkey, and to compare main findings with the same period in 2019 as being suggested by Moreno et al. [7].

Our CMHC had been closed between 23 March and 13 April 2020 because the team was initially assigned to Etimesgut State Hospital for the outbreak until mid-April.

Once reopened, telepsychiatry monitoring at CMHC was initiated once/twice a week or biweekly according to the patient's clinical status. From a number of total 188 patients, 155 could be contacted. The medical charts of these 155 patients (schizophrenia/schizoaffective disorder  $n = 131$  [84%], bipolar disorder  $n = 24$  [16%]) were investigated retrospectively. The demographic, clinical characteristics and medication adherence of the patients were recorded. Relapse criteria were defined as: (1) psychiatric hospitalization, (2) admission to emergency department (ER) for psychiatric reasons, (3) discontinuing antipsychotics (defined as not using oral formulations for a week or delaying the next LAI injection for two weeks), (4) new onset of suicidal thoughts or suicide attempt, and (5) non-suicidal self-harm or violent behavior.

The mean age of the sample was  $46.6 \pm 12.5$ , with a mean duration of education  $9 \pm 3.6$  years. Most of the patients were male (68%), single/separated (59%), unemployed (56%) and living with their families (90%). The mean duration of illness was  $20 \pm 10.6$ , and follow-up duration at the CMHC was  $2.9 \pm 1.5$  years. The median number of previous hospitalization was 2 (min–max: 0–10, IQR:2), and the median duration after the last hospitalization was 6 years (min–max: 0–30, IQR: 4).

The relapse rate of the patients in the first trimester of COVID-19 outbreak was 11% (bipolar disorder  $n = 2$ , schizophrenia  $n = 15$ ). Most of the patients who experienced relapse reported discontinuation of antipsychotics (59%). In addition, 2 patients were hospitalized, 4 were admitted to the ER, 2 had new onset of suicidal thoughts/suicide attempt, and 3 showed self-harm or violent behavior.

The relapse and the non-relapse groups were similar regarding age, gender, duration of education, employment and marital status, diagnosis, duration of illness and follow-up and the number of previous hospitalizations ( $p > 0.05$ ). The relapse group had been hospitalized more recently

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compared to the non-relapse group (Median (IQR): 3 (4) vs 6 (4) years, respectively, Mann–Whitney  $U = 320.500$ ,  $p = 0.001$ ).

Most patients in the relapse group were using LAIs (82% see Table 1). Twelve patients reported a wish to discontinue their medications, and 9 of these were receiving LAIs. Among the 8 patients who actually discontinued their LAIs, 5 did so in the first month of the outbreak. Medication details of the patients are presented in Table 1. The number of patients who wished to discontinue their medications was significantly higher in the relapse group (71% vs 5%, respectively,  $\chi^2(1, 155) = 64.701$ ,  $p < 0.001$ ). One patient older than 65 years of age could not receive an LAI because of the outbreak restrictions.

In the non-relapse group ( $n = 138$ ), 19 patients (13.7%) experienced one or more difficulties to continue their medications ( $n$ : 6 wishing to discontinue medication,  $n$ :3 delay of LAI injection  $< 2$  weeks,  $n$ :10 difficulty in procuring medications).

The relapse rate of the sample in 2019 was 6.5% (bipolar disorder  $n = 1$ , schizophrenia or schizoaffective disorder  $n = 9$ ), and did not differ from the first trimester of COVID-19 (McNemar test  $p = 0.167$ ). The odds ratio for the association between LAI and relapse was 1.07 in 2019. The odds ratio increased to 3.69 in 2020. But the Mantel–Haenszel analysis showed that the change of the odds ratio was not statistically significant (Breslow–Day  $\chi^2 = 1.739$ ,  $df = 1$ ,  $p = 0.188$ ).

Although most of the patients in the relapse group were using LAIs (Table 1), they tended to discontinue their medications. Non-adherence to LAIs may be an unexpected problem which can be faced during an outbreak. With some evidence indicating that LAIs are more effective in patients under the age of 40 [8], it could also be argued that this sample was too old to benefit from the advantages of using LAIs.

Our data did not support the superiority of LAIs over oral antipsychotics for relapse prevention in patients from a CMHC in the first trimester of the outbreak. Loss of contact between the CMHC team and patients may have facilitated the onset of relapse as the majority of the patients discontinued LAIs in the first month of the outbreak, in which our CMHC had been closed. Taking into account that the CMHC team was able to follow and support 19 patients who experienced some form of difficulty in continuing medications in the non-relapse group, it is plausible to state that carrying on community-based mental health care services during COVID-19 outbreak is essential. Our data also suggest that the patients who are more recently hospitalized may be more vulnerable for relapse.

Finally, telepsychiatry appears to be an efficient patient management tool, and the described CMHC experience gives further support to the need of adopting digital health

**Table 1** Antipsychotic treatments of the community mental health center patients ( $n = 155$ )

	<i>n</i>	Monotherapy		CLZaug with		Combination		Total
		Oral AP	LAI	LAI	Oral AP	Oral AP	LAI+Oral AP	
2020								
Relapse	0	2	10	1	0	1	3	17
Non-relapse	1	35	38	6	8	8	36	138
Total	1	37	48	6	15	9	39	155
Relapse rate of Oral APs vs LAIs				$\chi^2(1, 153) = 3.293$				$p = 0.07$
2019								
Relapse	1	3	3	0	0	1	2	10
Non-relapse	2	39	38	6	7	9	39	145
Total	3	42	41	6	12	10	41	155
Relapse rate of Oral APs vs LAIs				Fisher's exact value: 1				$p > 0.05$

AP antipsychotic, LAI long-acting injectable antipsychotic, CLZ clozapine, CLZaug clozapine augmentation,  $\chi^2$  The Chi-square statistic with Yates correction

services for patients with serious mental illnesses during the COVID-19 outbreak.

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### Compliance with ethical standards

**Conflict of interest** The authors declare that they have no conflict of interest.

**Ethical approval** Hacettepe University Ethics Committee and Turkish Ministry of Health-Scientific Research Committee of COVID-19 approved the study (Project no: GO20/546 and T15\_04\_11). The procedures used in this study adhere to the tenets of the Declaration of Helsinki.

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