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## Short Communication

# Psychotropic medications sales during COVID-19 outbreak in Italy changed according to the pandemic phases and related lockdowns



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## ARTICLE INFO

## Article history:

Received 5 August 2021

Received in revised form

13 September 2021

Accepted 8 October 2021

Available online 16 October 2021

## Keywords:

Psychotropic medications

COVID-19

Mental health

## ABSTRACT

**Objectives:** We have investigated the psychotropic medications sales (i.e. benzodiazepines, mood stabilisers and selective serotonin reuptake inhibitors) during the COVID-19 pandemic in the period from March 2020 to February 2021 compared with the same period in the preceding year.

**Study design:** This was a retrospective and observational study.

**Methods:** Data were obtained from five pharmacies located in a working-class zone populated by approximately 150,000 people in the urban area of Rome (Italy).

**Results:** A general slight increase in psychotropic medications sales was observed during the whole pandemic period compared with the previous year.

**Conclusion:** Our data showed that (1) the percentage of sales seems to vary according to the pandemic phases and related lockdowns and (2) the sales differ between the classes of medications considered.

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## Introduction

Epidemiological studies, reviews and meta-analyses demonstrate the worsening of mental health status during the COVID-19 pandemic compared with previous periods.<sup>1,2</sup> Indeed, it has been reported an increased prevalence of mood-, anxiety-, sleep- and stress-related disorders due to an interplay of several factors such as worry about becoming infected, worsening living conditions caused by forced quarantine and nationwide lockdowns, social isolation, reduced income, school and university closures, dramatic changes in work life.<sup>1–3</sup>

Nevertheless, data on psychotropic medications consumption during COVID-19, as a possible effect of the increased burden of psychological suffering, are still scarce and controversial. Some national and government agencies worldwide report a global growth of prescriptions of benzodiazepines (BZDs), mood stabilisers (MSs) and selective serotonin reuptake inhibitors (SSRIs) during the COVID-19 pandemic,<sup>4,5</sup> but it is still unclear the role of the different factors involved in this increase.

For example, Armitage<sup>4</sup> attributes the increased rate of antidepressant prescribing during the first COVID-19 lockdown measured by the National Health Service in England to the negative

psychological impact of the pandemic, whereas Walker et al.<sup>6</sup> contested this hypothesis considering this increase as a consequence of the ongoing upward trend in antidepressants prescribing over the last years, independently from the COVID-19.

The official government Italian National Pharmaceutical Agency (AIFA)<sup>7</sup> detected an increase (+7.96%) in sales of 'anxiolytics' in the pandemic period compared with the preceding year. Nevertheless, the AIFA does not specify which pharmacological classes of 'anxiolytics' were considered.

To extend available data on psychotropic drugs consumption during COVID-19 pandemic, we assessed the monthly sales of BZDs, MSs and SSRIs in a working-class zone populated by about 150,000 people in the urban area of Rome (Italy) in the period from March 2020 to February 2021 compared with the same period in the preceding year.

## Methods

## Database and study outcome

According to the aims of the present study, the sales of three classes of psychotropic medications used in the treatment of anxiety-depressive spectrum have been investigated: BZDs, MSs and SSRIs. The therapeutic classes have been selected according to the European Pharmaceutical Market Research Association. Data

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were obtained from five pharmacies located in a working-class zone populated by approximately 150,000 people in the urban area of Rome (Italy). The average monthly number of customers (i.e. the number of individuals who bought at least one medication or another non-pharmaceutical health-related product) in these pharmacies is approximately 28,000 people. Considering the cyclical nature of COVID-19 being characterised by peaks and waves,<sup>8</sup> we focused on three time points of the pandemic in Italy corresponding to lockdown periods: (1) March to May 2020 (i.e. the first wave and first lockdown, T1), (2) June to September 2020 (i.e. reopening phase, T2) and (3) October 2020 to February 2021 (i.e. the second wave and lockdown, T3). These time points were compared (i.e. percentage change) to the same ones in the previous year (i.e. non-pandemic period): (1) March to May 2019 (T1), (2) June to September 2019 (T2) and (3) October 2019 to February 2020 (T3).

**Results**

As expected, the first result detected was the decrease in the number of pharmacy customers during the first and the second COVID-19 waves compared with the same period in the previous year (Fig. 1A). Specifically, compared with the previous year, during the pandemic period, a significant decrease in pharmacy customers was observed at T1 (344,699 vs 422,743; i.e. -18.46%) and at T3 (696,350 vs 752,386; i.e. -7.45%). Conversely, a slight increase (i.e. +0.21%) was observed at T2 (503,792 vs 502,726).

Despite this, taking into account all considered psychotropic medications, a slight increase (59,987 vs 59,928; i.e. +0.10%) was observed during the pandemic period compared with the previous year. Specifically, an increase in SSRIs (16,844 vs 16,412; i.e. +2.63%) and MSs (9,794 vs 9,129; i.e. +7.28%) sales was observed during all the pandemic period compared with the previous year. Conversely, a decrease in BZDs sales (33,349 vs 34,387; i.e. -3.02%) was detected during all the pandemic period compared with the previous year.

Focusing on the considered time points, compared with the previous year, an increase in all considered psychotropic medications sales (20,574 vs 19,432; i.e. +5.88%) was observed during the pandemic period at T2 (Fig. 1B). Conversely, a decrease was observed during the pandemic period at T1 (14,410 vs 15,259; i.e. -5.56%) and T3 (25,003 vs 25,237; i.e. -0.93%).

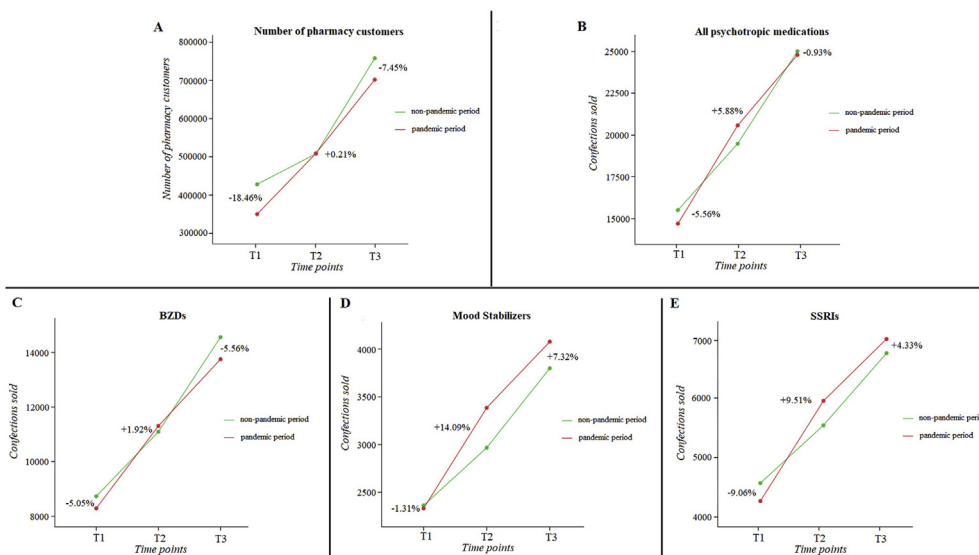
Considered separately (Fig. 1C–E), an increase in BDZs (11,307 vs 11,094; i.e. +1.92%), MSs (3,385 vs 2,967; i.e. +14.09%) and SSRIs (5,882 vs 5,371; i.e. +9.51%) sales was observed during the pandemic period at T2. An increase in SSRIs (7,177 vs 6,879; i.e. +4.33%) and MSs (4,076 vs 3,798; i.e. +7.32%) sales was also observed during the pandemic period at T3. Conversely, a decrease in BDZs (13,750 vs 14,560; i.e. -5.56%) sales was detected during the pandemic period at T1. Finally, a decrease in BDZs (8,292 vs 8,733; i.e. -5.05%), SSRIs (3,785 vs 4,162; i.e. -9.06%) and MSs (2,333 vs 2,364; i.e. -1.31%) sales was observed during the pandemic period at T1.

**Discussion**

The aim of this study was to investigate the BDZs, SSRIs and MSs consumption during COVID-19 outbreak in a sample of the urban area of Rome (Italy). As official government data are still not available in detail, to the best of our knowledge, this is the first study conducted in Italy on psychotropic medications consumption during the first year of the COVID-19 pandemic.

The most relevant results of our study are that (1) the percentage of sales seems to vary according to the pandemic phases and related lockdowns and (2) the sales differ between the classes of medications considered.

Indeed, even if we observed a general increase in SSRIs (+2.63%) and MSs (+7.28%) sales during the COVID-19 year (March 2020 to February 2021) compared with the previous one (March 2019 to February 2020), this growth varies according to the restriction phases with an initial decrease in T1 and an upsurge in T2 and T3. The initial decrease can be explained by both the substantial reduction of pharmacy customers (-18.46%) observed at the first lockdown period (T1) and the disruption of mental health services during COVID-19 lockdown.<sup>9</sup> We should recall that the acute outbreak of March 2020 induced the Italian government to enforce the first total lockdown in the Western world. People were not allowed to circulate, and the most of non-essential public and private health services were closed to avoid the spread of the infection. Unavailability of health services and prescriptions, as well as the worry of being infected, can explain the initial reduction of medication consumptions. On the contrary, in T2 (summertime), the situation was temporarily normalised, and the restrictions were discontinued. In



**Fig. 1.** (A) Number of pharmacy customers during the different time points. (B–E) Confections of psychotropic medications sold across the three time points. BZDs, benzodiazepines; SSRIs, selective serotonin reuptake inhibitors; T1, time point n°1 (i.e. March to May); T2, time point n°2 (June to September); T3, time point n°3 (i.e. October to February).

T2, we do not observe relevant differences with the same period of 2019 in the number of pharmacies customers, but the consumption of the psychotropic medications raised for all the classes considered (BDZs +1.92%, MSs +14.09% and SSRIs +9.51%). In the second Italian lockdown (T3), which in Italy has been experienced with much more discouragement than the first, even if the customers number decreased (−7.45%), we detected an increase in SSRIs (+4.33%) and MSs (+7.32%) consumptions. We can, thus, hypothesise that reduced mental health resources and growth of distressing conditions<sup>1–3</sup> led to an increase in consumption of SSRIs and MSs.

This research has several limitations: (1) our sample is small and not representative of the entire Italian population; (2) despite a strong relationship between medications sales and their consumption is supposed, this relationship is not fully demonstrated; (3) we measured only the three most common classes of psychotropic medications used in the treatment of anxiety-depressive spectrum but not other antidepressant or antipsychotic medications; and (4) we recorded only medication rate sales, and we do not know if the surge is due to an increase in new cases, the worsening of pre-existing sufferings or both. Because of these limitations and the rapidly evolving nature of COVID-19 pandemic psychological burden, our results must be considered preliminary.

Overall, our findings are in line with previous reviews and meta-analyses<sup>1–3</sup> that suggest an increased prevalence of mental burden due to the COVID-19 pandemic and recommend the urgent need of investments on preventive measures and health-promoting interventions (e.g. psychotherapies) to buffer negative effects of COVID-19 on mental health.<sup>10</sup>

## Author statements

### Author contributions

B.F. conceptualization; methodology; analysis and interpretation; writing—original draft.

C.M. conceptualization; data curation; methodology; writing—review and editing.

E.D.R. conceptualization; data curation; methodology; writing—review and editing

G.A.C. conceptualization; data curation; methodology; writing—review and editing

R.S. conceptualization; data curation; methodology; C.I. conceptualization; supervision; methodology; analysis and interpretation; writing—original draft.

### Ethical approval

None declared.

### Funding

None declared.

### Conflicts of interest

None declared.

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