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LETTER TO THE EDITOR

# Paracetamol: should we hide it within the NSAID category to dismiss its real infodemiology analysis?

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Dear Editor,

I read with interest the recent contribution by Marengoni et al., on this journal, where the authors investigated the impact of SARS-CoV2 pandemic on the consumption of pharmaceuticals in the Italian elderly population (almost 14 million inhabitants) [1]. Contrarily to other infodemiological surveys, some of which conducted in our University Department [2], the authors reported a reduction in the delta% of DDD/1,000 inhabitants for the period 2019–2020 of Non-Steroidal Anti-Inflammatory Drugs (NSAIDs), probably grounding their statement on the most recent AIFA and OSMED reports, as co-authors of these latter ones [1].

However, reading these issues, in 2019 the prevalence of paracetamol use during hospitalization in elderly patients aged ≥ 85 years was 12%, whereas for other NSAIDs was 5% [3]. Paracetamol (acetaminophen) reported an increase following hospitalization discharge [[3], pag. 146], where NSAIDs represented 12% and paracetamol 73%, particularly for older adults, where the use of paracetamol was 16, 26 and 31% for age groups 65–74, 75–84 and ≥ 85, respectively compared to 4, 7 and 1% for NSAIDs, respectively [3].

This evaluation completely disappeared in the herein commented paper [1]. The authors never mentioned paracetamol, which probably included in the more general NSAIDs terminology.

Lippi and Mattiuzzi recently reported that, by limiting their research in the time range July 2017-July 2022, the use of paracetamol was highly correlated (Spearman's test) with the COVID-19 time ($r = 0.89$; 95% CI 0.87–0.92; $P < 0.001$) and the increase, respect to pre-COVID-19 era (such as 2019) was + 54%, remaining constantly higher respect to a very common NSAIDs such as ibuprofen [2].

In Italy, the "paracetamol issue" involved science, press release and politics.

The Ministry of Health guidelines, in the three issues of Nov 30th 2020, April 26th 2021 and Feb 10th 2022 for treating SARS-CoV2 infected people at home at the beginning of COVID-19 symptomatology, indicated paracetamol as the leading and eligible pharmaceutical drug for symptoms relief, therefore it is highly presumable that, besides to its very commonly use, physicians and practitioners would refer to the Government's guidelines for early COVID-19 therapy prescription.

Aside from the controversial debate raised about the effect of paracetamol on elderly people infected with human coronavirus SARS-CoV2 [4], the use of paracetamol during the COVID-19 time should be reappraised.

The authors reported a decrease in the use of NSAIDs in 2020 respect to 2019, by 13% [1]. On 1,801 samples investigated in 2019, there was no variation in drug exposure between hospital entry and hospital discharge for NSAIDs and + 2.7% for paracetamol [3], whereas the data for NSAIDs reported a decrease of more than 25% in the use DDD/1,000 inhabitants passing from 2019 to 2020 [1].

This discrepancy, considering the occurrence of COVID-19 in 2020, is particularly puzzling.

The authors should have included in their paper the effect of the global market on pain reliever drugs upon COVID-19 pandemic [5], for which some pharmaceutical drugs, such as paracetamol, underwent gross fluctuations in the pharmaceutical financial burden worldwide [6].

This makes crucial to describe the particular trend of this therapeutic drug, in order to have more detailed insights about the use and availability of pharmacy products in the pandemic era.

Moreover, a more detailed survey may help epidemiologists to better comprehend the development of COVID-19 pandemic on the basis of the therapy used.

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## Declarations

**Conflict of interest** The author states he has no conflict of interest.

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