



# The Use Of Fluvoxamine A Selective Serotonin Reuptake Inhibitor Antidepressant In Relation To COVID-19 Incidence: Cross-sectional Study

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## INTRODUCTION

COVID-19 pandemic presents challenges for therapeutic management creating a great need to adapt quick strategies for managing and preventing COVID-19 symptoms and its critical complications.

Recently, several researchers emphasize medication repurposing as an approaching method to establish a fast-track line for discovering therapeutic treatments for COVID-19 patients. Most significantly, cumulative clinical data linked the use of selective serotonin reuptake inhibitors (SSRIs), antidepressants, with reducing the risk of COVID-19 complication among infected patients.

Thus, Fluvoxamine, an SSRI, can be considered a glimmer of hope when treating COVID-19 patients to prevent poor prognosis. Additionally, Fluvoxamine has advantages over other drugs such as potent anti-inflammatory properties, potent sigma-1 receptor agonist that relieves cytokine storm caused by COVID-19 replication, and increased melatonin levels by cytochrome P450 enzyme; CYP1A2 inhibition.

## OBJECTIVES

### Primary Objective:

- To measure the incidence of COVID-19 in fluvoxamine patients in comparison to the other SSRIs and identify the effect of fluvoxamine on decreasing possible post COVID-19 conditions.

### Secondary Objective:

- To potentiate the primary goal by assessing the severity of symptoms that occurred for patients while infected by COVID-19.

## METHODS

### Study Design:

This is an observational cross-sectional study conducted among depressed adult patients treated with fluvoxamine, fluoxetine, and Paroxetine.

### Ethical Consideration:

Ethical approval for the study was obtained from King Saud University College of Medicine Institutional Review Board (Ref No. E-21-6043).

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### Enrollment:

➤ Patients enrolled randomly by reviewing their demographics and collecting these information (Age, gender, SSRIs medication name, dose, duration of treatment, any other medical conditions, and any other medication used) using E-sihi via the ambulatory psychiatric clinic in KKHU.

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### Data Collection Method:

➤ Communication with the patients was done phonetically due to the COVID-19 situation. The phone call began by asking patients to sign the consent form. The COVID-19 symptom assessed by "FDA Assessment of 14 Common COVID-19-Related Symptoms" survey, which was translated into Arabic.

## RESULTS

❖ The total number of patients who received SSRIs and were eligible for the research criteria was around 153 patients. Most of the participants were female (68.6%) (n=105) while the male patients were 31.4% (n=48). Patients on fluvoxamine were 29.41% (n=45), patients on fluoxetine were 32.68% (n=53) and patients on paroxetine were 37.91% (n=58).

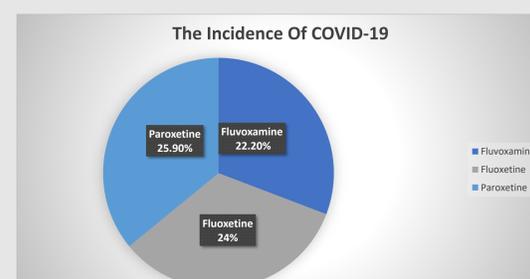


Figure (1): The Incidence Of COVID-19 among SSRIs Patients

❖ There was no hospitalization among patients on fluvoxamine and only one patient was hospitalized in each fluoxetine and paroxetine population. There is a significant difference between the duration of treatment and incidence of COVID-19 infection among patients on fluvoxamine with 95% confident intervals of spearman's rho (P-value 0.4 (-0.195, 0.401).

Symptom	Fluvoxamine (N= 9)	Fluoxetine (N=13)	Paroxetine (N=15)	P VALUE*
<b>Tiredness</b>	0%	7.69%	20%	0.09
None	11.2%	23%	13.3%	
Mild	66.6%	15%	33.3%	
Moderate	22.2%	62%	33.3%	
<b>Muscle / Body aches</b>	33.3%	15.4%	13.3%	0.3
None	11.1%	15.4%	20%	
Mild	33.3%	15.4%	46.7%	
Moderate	22.2%	53.8%	20%	
<b>Headache</b>	11.1%	0%	20%	0.5
None	11.1%	38.5%	20%	
Mild	33.3%	38.5%	20%	
Moderate	44.4%	23.1%	40%	
<b>Sense of smell</b>	11.1%	38.5%	26.7%	0.9
As usual	0%	15.4%	20%	
Less than usual	88.9%	46.2%	53.3%	
<b>Sense of taste</b>	22.2%	38.5%	33.3%	0.6
As usual	11.1%	23.1%	26.7%	
Less than usual	66.7%	38.5%	40%	
Loss sense of taste				

Table (1): Summary of FDA Assessment of 14 Common COVID-19-Related Symptoms

\*The chi-square statistic significant at  $p < .05$ .

## DISCUSSION & CONCLUSION

In general, patients on fluvoxamine had a lower incidence of COVID-19 symptoms and patients were less likely to be hospitalized. So, fluvoxamine might be used as a preventative medication for patients infected with SARS-CoV-2 in the early stages. Therefore, more large-scale multinational, randomized, double-blind investigations with a large sample size are essential to involve fluvoxamine as an optional candidate to manage COVID-19 patients.

## REFERENCES

