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Prevalence of psychoactive substance use and changes in consumption during the COVID-19 Pandemic in people with substance use disorders: systematic review and meta-analysis

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Abstract

The COVID-19 pandemic has affected the population's mental health in several ways. People with more vulnerable conditions may have been more affected, such as those with substance use disorder (SUD). We intend to carry out a systematic review and meta-analysis of studies with data on the prevalence of psychoactive substance use (PAS) and changes in consumption during the pandemic in individuals with SUD undergoing treatment. Therefore, this is a systematic review of the literature with a search in the LILACS, PubMed, PsycINFO, SciELO and VHL databases. The search will include studies published between March 2020 and July 2022 without language restrictions. Substance use prevalence data will be combined with random effects meta-analyses.

Troubleshooting

PREVALENCE OF PSYCHOACTIVE SUBSTANCE USE AND CONSUMPTION PATTERN DURING THE COVID-19 PANDEMIC IN PEOPLE WITH SUBSTANCE USE DISORDERS: SYSTEMATIC REVIEW AND META-ANALYSIS

1 **Background**

The COVID-19 pandemic, a recent public health emergency of international interest, represents a major challenge for mental health, given its unprecedented impact in this century. Social isolation, social distancing and quarantine, in addition to other public health provisions, actions to control the spread of the disease, can have immediate and long-term negative effects on people's mental health and overall quality of life (Faro et al., 2020). Such effects will be even greater in more vulnerable populations, such as people with SUDs (Blithikioti et al., 2021; Rajkumar, 2020). Thus, according to the authors, the need to study the impacts of COVID-19 on these issues becomes clear, given that they will require public policies and guidance for specific clinical decisions to formulate treatment interventions.

Although the number of articles on this topic is increasing day by day, there are still few studies aimed at this population (Brown et al., 2020). The first articles and reports began to appear at the beginning of the pandemic and despite the growth of publications on the subject, currently there is still a shortage of publications evaluating, in a methodologically adequate way, its psychosocial effects in different countries and social groups (Stults-Kolehmainen, Filgueiras & Blacutt, 2020).

Some preliminary studies around the world show the prevalence of psychological problems, including increased use of risky substances in this population, and other factors related to use, such as craving, withdrawal symptoms and recovery (Alessi et al., 2022; Arya et al., 2022; Martinotti et al., 2020; Sidana et al., 2021). However, it is important to note that other results also demonstrate that during the pandemic period there was stability in the frequency of consumption of raw materials, as well as a reduction in consumption compared to the pre-lockdown era, which can be explained by the implementation of preventive measures. containment of COVID-19, which restricted the movement of people and limited access to the substance. (Arya et al., 2022; Blithikioti et al., 2021).

In this way, our study is a systematic, comprehensive and methodologically adequate review and meta-analysis that aims to indicate the prevalence of results on the use of material in the period of the COVID-19 pandemic.

Methods

Searches

The search will carry out in the following databases: Medical Literature Analysis and Retrieval System Online (MEDLINE via PubMed), PsycINFO from the American Psychological Association (APA PsycNET), Latin American and Caribbean Health Sciences Literature (LILACS), Scientific Electronic Library Online (SciELO) and the Virtual Health Library (BVS). The terms used for the search were selected according to the Health Sciences Descriptors (DeCS) and Medical Subject Headings (MeSH/PubMed) and were combined using the Boolean operator AND. Eligibility criteria for this review: Cross-sectional observational studies investigating the use of and changes in the consumption of psychoactive substance that met the following eligibility criteria will consider eligible: (1) studies published between March 2020 and July 2022 and; (2) people of both sexes, over the age of 18 years, who were classified as having some type of SUD and who were receiving treatment. There were no language restrictions. Studies for which data were not available for download and gray literature were excluded.

Criteria for considering studies for this review

Type of studies

We plan to include cross-sectional studies with prevalence data, evaluating the psychoactive substance use (maintenance of consumption pattern, primary substance, increased use, decreased use) and other characteristics related to substance use such as craving, withdrawal symptoms and recovered, during the COVID-19 pandemic, publications in Portuguese, English and Spanish, data from March 2019 to July 2022. We will exclude other types of study designs, manuscripts that do not respect the purpose of the study and the guiding question; paid studies, as well as the results of publications between years less than March 2019 and gray literature.

Types of participants

We will include studies of patients with substance use disorders, selected according to the criteria of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) or the International Classification of Diseases (ICD-9), or even patients assessed by screening test for alcohol, tobacco and substances - ASSIT (WHO), Alcohol Use Disorders Identification - AUDIT (WHO) and particular questionnaires.

Type of outcome measures

Primary outcomes

1 – Primary use substances, measured by Diagnostic and Statistical Manual of Mental Disorders V (DSM – V), International Statistical Classification of Diseases and Related Health Problems 10 (ICD – 10), Screening Test for Involvement with Alcohol, Tobacco and Other Substances (ASSIST), Alcohol use Disorders Identification Test (AUDIT), and particular questionnaire.

2 – Maintenance, increase and reduction in the consumption of psychoactive substances, measured by the Screening Test for Involvement with Alcohol, Tobacco and Other Substances (ASSIST), Alcohol Use Disorders Identification Test (AUDIT), and particular questionnaire.

Secondary outcomes

3 – Phenomena related to the use of psychoactive substances: desire/craving behavior, (measured by Visual Analog Scale (VAS) and similar ones, Withdrawal Symptoms and Relapse.

Search methods for identification of studies

The search was carried out in the following databases: *Medical Literature Analysis and Retrieval System Online* (*MEDLINE* via *PubMed*), *PsycINFO from the American Psychological Association* (*APA PsycNET*), Latin American and Caribbean Health Sciences Literature (Lilacs), *Scientific Electronic Library Online* (*SciELO)* and the Virtual Health *Library (*BVS). The terms used for the search were selected according to the Health Sciences Descriptors (DeCS) and *Medical Subject Headings* (*MeSH/PubMed*) and were combined using the Boolean operator AND. The search was carried out in an advanced manner and was specified by "*Title/Abstract*". Additionally, we will carry out searches for trials using references list of included studies. Frame 1 shows the search strategy:

("COVID-19" AND "Substance-Related Disorders"), ("COVID-19" AND "Substance Use Disorders"), ("COVID-19" AND "addiction"), ("COVID-19" AND "Chemical dependency"), ("COVID-19" AND "Alcoholism"); ("Coronavirus" AND "Substance-Related Disorders"), ("Coronavirus" AND "Substance Use Disorders"), ("Coronavirus" AND "addiction"), ("Coronavirus" AND "Chemical dependency") ("Coronavirus" AND "Alcoholism"); ("SARS-CoV-2" AND "Substance-Related Disorders"); ("SARS-CoV-2" AND "Substance Use Disorders"), ("SARS-CoV-2" AND "addiction"), ("SARS-CoV-2" AND "Chemical dependency"), ("SARS-CoV-2" AND "Alcoholism")

Data collection and analysis

Selection of studies

Two review authors (SRC, RZM) will screen titles and abstracts after removing duplicates and will identify potentially eligible studies according to our eligibility criteria from retrieved records of defined databases. In a case of any conflict between decisions, a fourth reviewer will evaluate the study. After this phase, we will acquire full-text and will assess once more the elegibility of these trials for inclusion, providing reasons for the exclude studies. If needed, we will contact the authors of primary studies for further information. Lastly, we will merge published reports from the same study. We performed the entire screening process with the aid of the EndNote Web reference management tool - free version [Thomson Reuters - web-based bibliographic management. (2020). http://www. Endnote.com]

Data extraction and management

The studies identified in the search will be imported into the web-based bibliographic management program EndNote, a tool used to help select studies and exclude duplicates. The studies will be selected in two phases. In the first phase, four researchers (SRC, CPA, LAFA and PMLPA) will read the titles and abstracts of all the studies. Doubts about the inclusion of articles will be decided upon with the participation of a fifth researcher (LMAS). In the second phase, the studies potentially eligible for inclusion in the review will be read in full by the four researchers. Disagreements will be discussed and reconciled in team meetings and included the participation of a fifth reviewer (LMAS). After the study selection phase, two researchers (SRC and CPA) independently will extract information on the identification of the studies (author, year of publication, country where the research was conducted); sample characteristics (number of patients, distribution by sex, age, SUD classification); information on the collection of primary outcome data (evaluation period; prevalence of main substance of use, prevalence of maintenance of increased and reduced consumption during the COVID-19 pandemic); and information on the collection of secondary outcome data (craving, withdrawal symptoms, relapse). We will do data extraction and management by four independent authors (SRC; LMAS) using a data extraction form in an Excel spreadsheet.

Assessment of risk of bias in included studies

Two reviewers (SRC and CPA) will independently assess the risk of bias of each include trial using the Joanna Briggs Institute critical assessment tools for use in the JBI Systematic Reviews Checklist for
Prevalence Studies Any disagreements will be resolved by consensus and we will use the following definitions in life risk assessment: 1 - Was the sample design appropriate to address the target population?, 2 - Were study participants sampled adequately?, 3

- O Was the sample size adequate?, 4 - Were the study subjects and setting described in detail?, 5 - Was the data analysis performed with sufficient coverage of the identified sample?, 6 - Were valid methods used to identify the condition?, 7 - Was the condition measured in a standardized and reliable way for all participants?, 8 - Was there appropriate statistical analysis?, 9 - Was the response rate adequate and, if not, was the low response rate managed appropriately? We will focus on the prevalence data from the studies. For flag questions within each domain for each result, we will provide one of the four possible answers in the JBI tool ("Yes", "No", "Unclear", "Not apply") judging according to the answer presented for each answer "Low risk of bias," "Some concerns," or "High risk of life." The overall judgment of risk of bias for each outcome will be a less favorable assessment across domains. We will summarize our findings in the "Risk of Bias" tables and figures.

Prevalence measures

For primary and secondary outcomes we will collect prevalence coefficient data and significant confidence ratios.

Assessment of heterogeneity

We will assess statistical heterogeneity employing the Cochran Q test to determine the strength of evidence that heterogeneity is genuine. We will consider a threshold of P value < 0.1 as an indicator of whether heterogeneity (genuine variation in effect sizes) is present. In addition, we will perform by examining the I^2 statistic interpreting as follows: < 25% (no heterogeneity); 25% to 49% (low heterogeneity); 50% to 74% (moderate heterogeneity); ≥ 75% (high heterogeneity).

Assessment of reporting biases

We will investigate publication bias inspecting funnel plots if we include 10 or more clinical trials in the systematic review, following by Egger's Test.

Data synthesis

We will plan perform statistical analysis. We will compile prevalence with 95% CIs of individual trials using a random-effects meta-analysis (when results of two or more similar studies can be pooled). Data will be analysed using the ‘metatprop’ function in the meta package in the R program.

Subgroup analysis and investigation of heterogeneity

If possible, we intend to perform subgroup analysis in case of heterogeneity considering the following variables:

- Primary use substances.
- Maintenance
- Increase and reduction in the consumption of psychoactive substances
- Craving and withdrawal syntoms.

Sensitivity analysis

If possible, we will perform the following sensitivity analyses:

- Effects of risk of bias by excluding studies with high risk of bias

Keywords

Substance Use Disorder; Alcohol Use Disorder; Psychoactive Substance Consumption; COVID-19

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Conflict of interest

No conflict declared.

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Nothing declared.

Contributors

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