Scales Used to Assess Stress Level and Mental Health During the Covid 19 Pandemic: Systematic Review

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ABSTRACT

This systematic review aims to identify the scales used in studies related to the impact of COVID 19 on the increase in mental disorders. Initially, 265 studies that met the review criteria were included. The use of 411 different scales was identified. It was found that only 20% of studies use the same scales. Conclusively, to obtain a more precise value regarding the impact of COVID 19 on mental health, it is necessary that the new studies use similar scales.

Keywords: COVID 19; Mental Disorders; Stress; Mental Health

Introduction

COVID-19

At the end of December 2019, the world became aware of the existence of a new virus that was in the city of Wuhan (China), but in a few months, this virus spread in practically all countries on the planet, becoming a global pandemic [1]. In addition to the problems related to the physical health of those who contracted the virus, COVID 19 has become a major cause of problems in the psychological health and well-being of the world population [2]. Recent studies, such as [2], show an exponential increase in people with high stress symptoms, others like Elbay et al. and Ballou et al. showing a significant increase in the number of cases of people with depression and anxiety [3-5]. One of the main causes of illness in the mental health of the world population is stress [6]. And it was proven that in the lockdown period, there was a significant increase in the population's stress levels, due to concerns about the economy, access to inadequate information, lack of personal space in the house, boredom, little social life, care not to contracting the virus, anxiety about the appearance of the vaccine and the loss of relatives and friends [7].

Considering the countless psychological problems that COVID 19 caused in the population, researchers from several countries are dedicated to identifying these cases of psychological aging in the population [8,9]. However, in order to obtain a parameter with less stringency, it is important to use validated instruments that are translated into different languages, so that it is possible to have a more uniform global data, as well as the creation of specific instruments for assessing mental health caused by COVID 19, as a mention (Ballou & Palsson). In order to identify the most used methods for assessing stress related to COVID 19, a systematic review was carried out in the main scientific databases, enabling other researchers to identify which scale is most often used and replicate in their studies.

General Objective: Provide an updated parameter regarding the scales that are used in different countries to identify the levels of stress, depression and anxiety caused by COVID 19.

Methods Protocol: For the development of the systematic review, we followed the indications of the PRISMA guide, which

appoints the following steps: define your purpose, formulate the question, search for literature, evaluate the data, analyze the data and present the results [10-13].

Records: The included and excluded study data is available at <https://docs.google.com/spreadsheets/d/1uGFdVoY3uMISdb4iI35ZCMQVeYCqL3JAs5nVdJNn0w>

Eligibility Criteria

Selection Criteria: As a criterion for research, studies that address COVID 19 and have the relationship with stress, which have quantitative data, were chosen.

Inclusion Criteria

- Research written in the Spanish, English or Portuguese
- Studies carried out between the period of January 1, 2020 to December 31, 2020
- Full text studies available
- Studies that have used any stress assessment tool
- Studies that present statistical data regarding stress levels
- Studies that present data related to depression and anxiety.

Exclusion Criteria

- Systematic and literature reviews
- Theoretical studies
- Stress in health professionals
- Research that reports stress in other professionals
- Stress in people who have a disease

Information Sources

To search the data, the following databases were used: Cochrane Central Register of Controlled Trials, in the MEDLINE database (Latin American and Caribbean Literature in Health Sciences), LILACS (Virtual Health Library), SCIELO (Scientific Electronic Library Online) and PsycINFO.

Searches

For the searches, the following terms will be used as limited vocabulary and thesauri: "COVID 19", "stress", in the Spanish, Portuguese and English languages, with the following combinations (Figure 1).

Figure 1.

Selection of Studies

In order to identify and gather the largest number of relevant works, in the first step, all the publications that contained the keywords in the title, abstract and text were included in the search engines. The second step was the reading and analysis in the integral of the texts that contemplated one of the inclusion criteria.

Data Collection Process Types of Study Methods

Among the various classifications of study methods, those that meet the requirements of this research are experimental, observational, cross-sectional and longitudinal studies, which belong to studies with a unit of analysis or in a group of individuals.

Data Evaluation

In this evaluation, the identified articles were reviewed, classifying them according to the title and abstract, selecting those that met the inclusion criteria and discarding them if it could not be verified that they did not meet them.

Checking Protocol

A protocol was developed whose purpose is to detail the requirements for the selection of articles and to allow the information to be displayed, so that other reviewers can detect ambiguity or application problems. The check protocol is available at <https://docs.google.com/spreadsheets/d/1uGFdVoY3uMISdb4iI35ZCMQVeYCqL3JAs5nVdJNn0w/edit#gid=0>

Literature Search

All online publications of journals, university theses and abstract were included, between the period of February 1, 2020

to December 20, 2020. For the searches, the following terms were used as limited vocabulary and thesauri: "COVID 19", "stress", in the Spanish, Portuguese and English languages. The results in the databases (Table 1). The sum of the results presented was 4272 studies, but most were discarded because they did not meet any of the criteria of this investigation. Of these 4272 studies, 319 articles were selected for full reading, as they met at least 1 of the inclusion criteria. Of these, 8 were duplicates and 46 were excluded because they did not meet all the review criteria, thus subtracting 265 that will be used in this study (Table 2).

Table 1.

Date base	Estrés	Stress	Estresse
Cochrane	1	1	1
MEDLINE	9	3160	1
Scielo	71	48	34
PsycInfo	9	618	319

Table 2.

Scale Name	Number of studies you used
General Anxiety Disorder-7 scale (GAD-7)	52
Depression, Anxiety and Stress Scales (DASS-21)	48
Patient Health Questionnaire (PHQ-9)	48
Perceived Stress Scale (PSS 10)	48
Posttraumatic stress disorder symptoms	20
Impact of Event Scale-Revised (IES-R)	16
Poor psychological well-being	12
COVID Stress Scales (CSS)	10
Patient Health Questionnaire (PHQ-2)	9
Connor-Davidson Resilience Scale (CD-RISC-10)	8
COVID-19-Related Stress	8
Fear of COVID-19 Scale (FCV-19S)	8
Insomnia Severity Index (ISI)	7
Patient Health Questionnaire (PHQ-4)	7
Beck Depression Inventory (BDI)	6
Impact of Event Scale (IES)	6
Scale of Perceived Social Support (MSPSS)	6
Templer Death Anxiety Scale (TDAS)	6
Use of Technology for Child Education	6
Beck Anxiety Inventory (BAI)	5
Brief Symptom Inventory (BSI)	5
General Anxiety Disorder (GAD-2)	5
Hospital Anxiety and Depression Scale (HADS)	5
Parental Stress Scale (PSS)	5
Peritraumatic stress symptoms related to COVID-19	5
State-anxiety (S-Anxiety)	5
Acute Stress Disorder (ASD)	4
Alcohol Use Disorders Identification Test (AUDIT)	4

Perceived Stress Scale (PSS-4)	4
Self-Rating Depression Scale (SDS)	4
WHO Quality of Life Instrument—Short Form (WHOQOLBREF)	4
Athens Insomnia Scale (AIS)	3
Big Five Inventory (BFI)	3
Center for Epidemiologic Studies Depression Scale (CESD-R)	3
COVID-19 Related anxiety	3
Event Scale-Revised (IES-R)	3
Obsessive-Compulsive Inventory-Revised (OCIR)	3
Patient Health Questionnaire (PHQ-15)	3
Positive perception of interventions	3
Post-Traumatic Stress Disorder (PTSD)	3
Symptom Checklist (SCL-90)	3
Adolescent student's alienation scale (ASAS)	2
Brief Coping Orientation to Problems Experienced (COPE)	2
Brief Illness Perception Questionnaire (BIPQ)	2
Brief Resilience Scale (BRS)	2
Brief Resilient Coping Scale (BRCS)	2
Buss-Perry Aggressive Questionnaire (BPAQ)	2
Cognitive social capital scale (CSCS)	2
Coronavirus Anxiety Scale (CAS)	2
Escala de Estresse Percebido (EEP-10)	2
Escala de ideation suicide de Beck (SSI)	2
Five Facets Mindfulness Questionnaire Short Form (FFMQ-SF)	2
General health questionnaire (GHQ-12)	2
Global Severity Index (GSI)	2
International Trauma Questionnaire (ITQ)	2
Intolerance of Uncertainty Scale (IUS-12)	2
Kessler Psychological Distress Scale (K6)	2
Loneliness Scale	2
Mental Health Lifestyle Scale (MHLSS)	2
Multidimensional Survey of Perceived Social Support (MSPSS)	2
Negative emotions questionnaire	2
Openness scale	2
Pandemic-related stress factors (PRSF)	2
Patient Health Questionnaire (PHQ-8)	2
Patient-Reported Outcomes Measurement Information System (PROMIS)	2
Perceived Stress Related to COVID-19	2
Perceived Stress Scale for COVID (PSS-C)	2
Perception of COVID Impact on Student Well-Being (CI)	2
Psychological Distress instrument Kessler-10 (K10)	2
Quality of Marriage Index (QMI)	2

Ryff Measures of Psychological Well-being	2
Scale of Perceived Stress Related	2
Negative emotions questionnaire	2
Openness scale	2
Pandemic-related stress factors (PRSF)	2
Patient Health Questionnaire (PHQ-8)	2
Patient-Reported Outcomes Measurement Information System (PROMIS)	2
Perceived Stress Related to COVID-19	2
Perceived Stress Scale for COVID (PSS-C)	2
Perception of COVID Impact on Student Well-Being (CI)	2
Psychological Distress instrument Kessler-10 (K10)	2
Quality of Marriage Index (QMI)	2
Ryff Measures of Psychological Well-being	2
Scale of Perceived Stress Related	2

Results

As a result, two 265 studies have been analyzed, for which 411 different scales were identified, which were used to measure the level of stress, depression, anxiety, satisfaction with life, wellbeing, social conviviality among other aspects, which were applied in 38 countries. Below follows a list of the scales that were used in more than 1 study.

Discussion

From this analysis, we noticed that only 20% of the studies use the same scales to measure the level of stress, depression and anxiety of the participants. What makes it difficult to carry out meta-analysis and thus have a more precise parameter of the situation of mental disorders in the world. Another problem found in this review is the little use of scales that were created specifically to measure mental health related to COVID 19, considering that the most used scales were not designed to analyze mental health in a

pandemic period. We hope that the present study will contribute to standardize the new studies and thus enable a more detailed analysis related to this theme.

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