

## IMPACT OF THE COVID-19 PANDEMIC ON THE HEALTH OF UNIVERSITY STUDENTS

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### SUMMARY

Some situations cause mental and emotional disorders. The "Pandemic" is related to a disease. The existence of severe or mortal cases generates states of stress. The stress states, positive or eustress arises when a person is under pressure, but the situation implies benefits. Negative stress or distress can occur in situations such as COVID-19 pandemic and is related as something that is not easily controlled. Lockdown and the length of the pandemic have generated stress, additional to this isolation with family, friends, disability of holding school meetings and face-to-face interpersonal relationships, have affected the emotional and physical state and a lack of control in a dream state, decreasing school performance in University students of health area (Stomatology). The article's objective is to identify and show the possible consequences of mental health due to negative stress as a response to social isolation in students due to the COVID-19 pandemic. Descriptive, observational, cross-sectional study population 536 university students (3rd to 8th semester of Stomatology, period 2020). A questionnaire of 14 Likert-type items was used to obtain data on the possible consequences of mental health, economic stability, and face-to-face interpersonal relationships due to negative stress. Was observed that the Pandemic and the confinement have generated unexpected changes in University students. They are experiencing an emotional state of stress due to specific factors: family economic instability that affects any environment; lack of sleep, changes in eating habits, also, stress for fear of catching the virus. In university students, 3.7% of those were detected infected. The Implementation of the virtual teaching-learning dynamic is necessary for the educational field, where the teacher can update on this topic and achieve his goal.

**KEYWORDS:** COVID-19, stress, emotional instability, virtual education.

### INTRODUCTION

When we talk about "mental health in the world", the World Health Organization<sup>[1]</sup> (WHO) and in its report, describes mental health as: "A state of complete physical, mental and social well-being, and not only the absence of conditions or diseases" in which the individual catches his attitudes, can face the normal pressures of life, can work productively and fruitfully, and can contribute in his community. WHO 2020).<sup>[2]</sup>

The current situation of the Covid-19 pandemic requires extreme measures such as social isolation, to avoid or reduce contagion between people (Russell 2016, Cauchemez 2009, GENSINI 2004).<sup>[3,4,5]</sup>

Stress understood as "the addition of all the nonspecific effects of factors (daily activities, disease-producing agents, drugs, inappropriate life habits, abrupt changes in work and family environments), that can influence a person" (Martínez y Díaz, 2007, p. 13).<sup>[6]</sup>

Stress is present in all media and environments, even in academics, where implications in student performance are observed. Mexico is the country with the highest stress index.<sup>[7]</sup>

Marty et al<sup>[8]</sup> found a significant percentage of health area students who presented symptomatic stress during the periods of greatest academic demand, with more predominance in women and the first years of careers.

Gambetta-Tessini<sup>[9]</sup> (2013) In Halgravez Perea; mentions that this is accentuated in University students of careers such as medicine and odontology.

If negative stress is held for a long time, it can cause negative repercussions in organisms at the mental and physical level, highlighting that it is not permanent, and it depends on the general and emotional state of the student.

Most of them when returning to the routine lifestyle, the emotional state of the University student gradually changes.

For Barraza<sup>[9]</sup> et. al. (2007), academic stress generates depression, anxiety, low self-esteem and leads to low academic performance, therefore, it is of extreme importance to attend to academic stress and its management in university life.

University students can face academic stress through a favorable social environment, with family, friends, and social support, who are the ones who can create an adequate environment to overcome stress.

In current situation of global home confinement, due to COVID-19, most people are exposed to unprecedented stressors of unknown length.

Retaking Barraza<sup>[9]</sup> who mention that family, friends and the social environment can be the support to overcome stress, for this case, it's not applicable, because none of these aspects of support are held, it's back, there are no interpersonal relationships and besides, there have been some cases of sick patients in a family environment which further exacerbates stress.

Everything described can not only increase stress levels, anxiety, and depression levels during the day but also interrupt sleep. It is important to highlight that, due to the fundamental role that sleep plays in the regulation of emotions, its alteration can have direct consequences on emotional functioning and learning the next day.

Consequently, quarantine and social distancing will generate some negative effects on people's mental health, such as confusion and insecurity, eating and sleep disorders, along with job changes and routines generate increased emotional reactions like anger, anxiety and inappropriate health behaviors (Chatterjee 2020) 10, (Perrin 2009)<sup>[11]</sup> (Holmes 2020).<sup>[12]</sup>

Potter<sup>[13]</sup> et. al (2011) mentions the consequences of the sleep interruption, those include innumerable metabolic ramification, some of them could be aggravated by the adverse effects on the dietetics elections.

Altena, E.<sup>[14]</sup> (2020) says that sleep plays an important and fundamental role on the emotion's regulations, the sleep alteration could have direct consequences on the next day emotional functioning.

Some factors can be related to depression and anxious manifestation in patients that stay in quarantine due to a pandemic situation, both could be considered as a normal reaction by the generated stress.<sup>[15]</sup>

It is more prevalent especially in patients during COVID-1 lockdown, whose psychological stress tends to be higher. Some of the factors that could trigger stress

situations during the mandatory confinement are academic charge, future's expectations, the lack of provisions such as personal articles and food, the quarantine duration, the fear to infect or to be infected, boredom, false information; but after the ending of the lockdown there will be some factors that will be continued and will favor the anxiety and stress, such as the financial state and the discrimination for those positive cases of COVID-19 or those people that were in contact with sick people (Rooks SK 2020)<sup>16</sup> Brooks 2020).<sup>[17]</sup>

Thus, some of the stressful factors on the university students are and will be the economic situation of the family, the close of many shops, industries have been affected the family situation and therefore to themselves.

For Águila y cols<sup>[18]</sup>, "the academic's stress is these that the student suffers mainly in high school and university, it has an exclusive source the stressors related to the developed activities in the scholarship environment".

According to Orlandini<sup>[19]</sup> (1999), follow the tradition the conceive the stress as an excessive tension, points the "from preschool-grade to university and postgraduate level when a person is in (...) a learning period it experiments tension. It is called academic stress, and it occurs both on the individual and collective study" (Barraza9, 2004, p. 143). The stage in the life cycle where most of the university students are found is late adolescence, in this stage, some of the mental health problems are accepted, those problems are not usually observed in previous life stages, such as mood disorders. Added to the above, the greater academics demands in college education are recognized by the students as one of the factors that generated the highest stress levels.

The close of schools and the social distancing produced an increase of the stress level, both in students and their families, due to that the daily routines are affected, their relatives' sickness, their relative lost, the funeral cancellations could make the recovery harder (Stevenson 2009).<sup>[20]</sup> Previous studies have observed that the 31.2% of the people that keep the social distancing presented depression symptoms and that the 28.9% presented a post-traumatic disorder after the lockdown (that include fear, social isolation, sleep disorders, overwhelming thoughts) a direct relation between these percentages and the lockdown duration (Hawryluck 2004, REYNOLDS 2007).<sup>[21,22]</sup>

Some of the psychological effects that could create during this confinement time due to the pandemic situation are stress, collective fear, anxiety, and hysteria; since during an epidemiologic sprout, the fear arises mainly by the ignorance of the disease.

The COVID-19 pandemic has required the university student's quarantine since they will be exposed to infection, these could produce uncertain effects in their

mental health. A lot investigation about the mental health's effect in previous epidemic lockdowns in this century (SARS, MERS, A/H1N1 flu and Ebola) have described the higher prevalence of the psychologic discomfort, emotional symptoms (low mood and irritability) and the post-traumatic stress, in some cases these symptoms could linger during a long time. The fear to be infected and the financial loss are some of the stressful factors associated with confinement; it is proposed some measurements directed to improve the communication and to ease the sources of the materials that are needed<sup>23</sup>.

#### METHODOLOGY

A descriptive, observational, transversal study was performed. The population was confirmed by 536 students of a stomatology degree, of which 76% belongs to the community college (Benemérita Universidad Autónoma de Puebla) and 24% are part of a private university (Centro de Investigación y Estudios Superiores de Estomatología y Salud). The age mean was 19-23 yo with an SD of  $21.5 \pm 1.58$ yo, with a confidence interval of 213.68 (lower limit). 72 % of the population are identified as female gender.

The sample was not calculated due to the confinement, the enrolled student population was considered, and they participated in the call to answer the questionnaire which was elaborated in Drive.

The link was sent to students through WhatsApp groups so that the information could be answered by University students enrolled in spring 2020 period that correspond to the 3rd to 8th semester of the Degree in Stomatology.

To identify and show the possible consequences on mental health due to negative stress, as a result of social

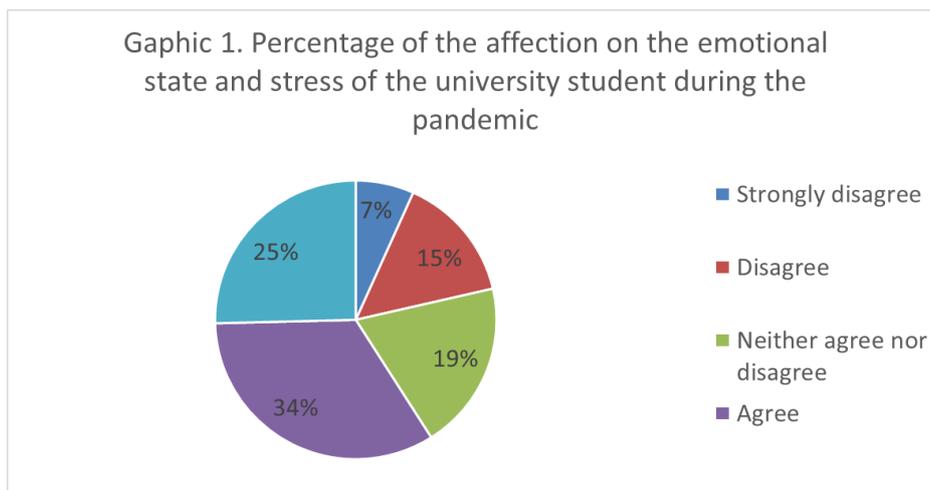
isolation in university students due to confinement due to the COVID-19 pandemic and to obtain the data, a questionnaire was used for the investigation, made up of 14 items, The Likert scale, with values from 1 to 5, were used to determine the following: The same coding parameters were used for all questions, where 1 strongly disagrees (blue color) and 5 strongly agrees (purple color). It is made by four items that allow identifying stress to pandemic / COVID stress stimulus reactions.

Two items that identify how university students face confinement in respect it interpersonal and family relations ships Two items that identify changes or not about sleep and eating habits. Five Items on the economic situation and school performance. Items to assess the physical state.

#### RESULTS

The data were analyzed using Excel tables. For this research, the most relevant results are as follows: the participants were of both sexes, the sample ( $n = 536$ ), of which 72.6% corresponds to the female sex and 27.4% male.

The events that generate stress were classified into different items. When combining codes 5 and 4 (Totally agree-agree) of the total of the University students surveyed concerning the four items of mental health/emotional state stress/pandemic/confinement corresponds to the mean with 59% affected which is statistically significant. Results that match Gambetta-Tessini<sup>[9]</sup>, who mentions that they present stress due to being University students of Dentistry, and now, due to the pandemic, the percentage stands out more. It is worth mentioning that in the four items mentioned above, responses show 20% indifference (neither agree nor disagree) (Graph 1).



From the two items that identify how university students confront confinement related to face-to-face interpersonal relationships, it is identified that it affects them in 50.6% and with the advantage of a greater family approach. (Table 1) Barraza<sup>9</sup> mentions that family,

friends, and the social environment are the support to overcome stress, which reaffirms the results due to interpersonal distancing (confinement).

For the items that identify changes or not about sleep and eating habits, and that we communicate with the impact of confinement on eating habits<sup>[24]</sup> coincides and exceeds the percentage with other research on stress. (Chatterjee 2020)<sup>[10]</sup>, (Perrin 2009)<sup>[11]</sup>, (Holmes 2020)<sup>[12]</sup> (Potter<sup>[13]</sup> et) (similar to our results) since there is a lack of control

on the part of the University students and this also affects their emotional state due to stress, the economic factor at the family level. (Table 1) confirming what they mention (Rooks SK 2020)<sup>[16]</sup> Brooks 2020)<sup>[17]</sup> (El-Gilany).<sup>[25]</sup>

Situation	Percentage of 536 participants
Do you consider that social isolation due to the pandemic affects your interpersonal relationships?	50.6%
Do you consider that social isolation caused by the pandemic generated a greater family approach?	54.7%.
Do you consider that social isolation due to the pandemic affects your sleep habits?	77.6%
Do you consider that social isolation caused by the pandemic affects your eating schedule and takes away your hunger	54.7%
Do you consider that pandemic affects your family's economic perception and yours?	77.7%

In the school environment they reflect lower school performance (Table 2) coinciding with what is mentioned in Mental Health<sup>[26]</sup> since confinement and online education does not meet the necessary requirements for learning, it also does not resolve the quality of learning as Reynoso, J.<sup>[27]</sup> mentions and we communicate with Avello<sup>[28]</sup> the fact that University students themselves are scarcely recognized for being

included as a responsible party in learning outcomes for a quality education.

Regarding the Items to assess the physical condition of the University student, 57.4% are reflected with physical deterioration due to social, economic and confinement instability. (Table 2).

Situation	Percentage of 536 participants
Do you consider that the change from face-to-face modality to the virtual modality of your theoretical classes has allowed you to achieve better school performance?	61.7%
Do you consider that the social isolation caused by the pandemic affects your physical state?	57.4%

## CONCLUSION

In a non-pandemic environment, the university student could deal the academic stress through favorable social conditions; also, some implications are observed about their performance. When the results were analyzed, it was observed that the pandemic situation and the lockdown have made some big changes to the university student's mental health. First, they are living an emotional state of stress, due to three specific factors: financial instability of the family that reverberates in any scope, the stress to be infected by the virus, and the irritability that affected them in their daily basis. It was found that 3.7% of the students were infected and 18.54% of their close relatives were also infected. Regarding sleep and eating alterations, stress and anxiety have presented a decrease in the scholar's performance.

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