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## Impact of the COVID-19 pandemic on the mental health of the general population and health care workers

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## ABSTRACT

The Health Sciences Foundation has assembled a multi-disciplinary group around a series of questions about the impact of the COVID-19 pandemic on the mental health of the general population and specific groups within that population, particularly healthcare workers.

In the general population, the most prevalent mental disorders have been anxiety, sleep disorders and affective disorders, primarily depression. There has been a considerable increase in suicidal behavior, especially in young women and men over 70 years of age. There has been an increase in alcohol abuse and nicotine, cannabis and cocaine use. In contrast, the use of synthetic stimulants during periods of confinement has decreased. With regard to non-substance addictions, gambling was very limited, pornography consumption increased significantly and there was an increase in compulsive shopping and the use of video games.

Particularly vulnerable groups include adolescents and patients with autism spectrum disorders. Healthcare workers

suffered an increase in depression, anxiety and post-traumatic stress, especially those who were exposed during the early stages of the pandemic. Female sex, being a nurse, proximity to patients with COVID-19, working in a rural environment and having previous psychiatric or organic illnesses were some of the most frequently repeated factors in various studies in this population group.

The media have shown a good degree of knowledge about these problems and have dealt with them frequently and from the point of view of ethics, crisis situations, such as the one experienced, have triggered not only physical but also moral claudications.

**Keywords:** COVID-19, SARS-CoV-2, Mental health, Depression, Anxiety, Stress, Suicide, Autism, Adolescence, Healthcare,

## Impacto de la pandemia de COVID-19 en la salud mental de la población general y de los trabajadores sanitarios

## RESUMEN

La Fundación de Ciencias de la Salud ha reunido a un grupo multidisciplinar alrededor de una serie de preguntas sobre el impacto de la pandemia de COVID-19 en la salud mental de la población en general y de grupos específicos de dicha población, particularmente los trabajadores sanitarios.

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En la población general, los trastornos mentales más prevalentes han sido la ansiedad, los trastornos del sueño y los trastornos afectivos, fundamentalmente la depresión. Se ha producido un aumento considerable de la conducta suicida, especialmente en mujeres jóvenes y varones mayores de 70 años. Se ha incrementado el abuso de alcohol y los consumos de nicotina, cannabis y cocaína. Por el contrario, ha disminuido el consumo de los estimulantes sintéticos durante los periodos de confinamiento. Respecto a las adicciones sin sustancia, el juego de apuestas quedó muy limitado, el consumo de pornografía experimentó un incremento notable y hubo un aumento de la compra compulsiva y del uso de videojuegos.

En cuanto a grupos particularmente vulnerables hay que destacar el de los adolescentes y el de los enfermos con trastornos del espectro autista. Los sanitarios han sido un grupo especialmente vulnerable, en particular los que estuvieron expuestos durante las primeras fases de la pandemia. El sexo femenino, el ser enfermera, la proximidad a los pacientes con COVID-19, el ejercicio en un medio rural y padecer enfermedades psiquiátricas u orgánicas previas, fueron algunos de los factores más frecuentemente repetidos en diversos estudios en este grupo de población. Depresión, ansiedad y estrés post-traumático fueron los trastornos más frecuentes.

Los medios de comunicación han mostrado un buen grado de conocimiento sobre estos problemas y los han tratado con frecuencia. Desde el prisma de la ética, las situaciones de crisis, como la vivida, han desencadenado claudicaciones no solo físicas sino también morales.

**Palabra clave:** COVID-19, SARS-CoV-2, Salud mental, Depresión, Ansiedad, Estrés, Suicidio, Autismo, Adolescencia, Sanitarios,

## INTRODUCTION

The COVID-19 pandemic will soon be three years old, with catastrophic and well-known consequences on the physical health and mortality of the planet's inhabitants. Its consequences on mental health have been equally enormous and its analysis has been carried out at different times of the pandemic and with logically partial approaches. On the other hand, the conditions for altering the mental health of individuals and groups that the pandemic has entailed have been different in different places.

The Board of Trustees of the Health Sciences Foundation asked itself, at the time, a series of questions about the consequences of the COVID-19 pandemic on mental health, both in the general population, with or without previous good mental health, and in the group of health care workers. These consequences were of particular concern for the Spanish population. For this reason, a series of experts in different subjects related to the topic were brought together to try to answer these questions in the light of the scientific evidence and their own opinion and experience. After the presentation of the subject, in each of the questions and with the discussion of the whole group, a consensus conclusion was reached that tried to summarize the state of the art on the subject.

The paper that follows is the result of that process. All authors have reviewed and approved the final manuscript.

The paper is divided into a first part assessing the impact of the pandemic on the mental health of the general population and a second part on its impact on healthcare workers.

## PART ONE - IMPACT OF THE PANDEMIC ON THE MENTAL HEALTH OF THE POPULATION

### WHAT IS MENTAL HEALTH AND HOW IS IT DEFINED? WHERE ARE THE LIMITS OF PATHOLOGY? WHAT ARE THE METRICS THAT BEST REFLECT THE MENTAL HEALTH OF A SOCIETY?

The World Health Organization (WHO) considers good mental health to be a state of well-being in which the individual is aware of his or her own capabilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community. Just as it defines good health, not just as a lack of disease, so it does with mental health [1].

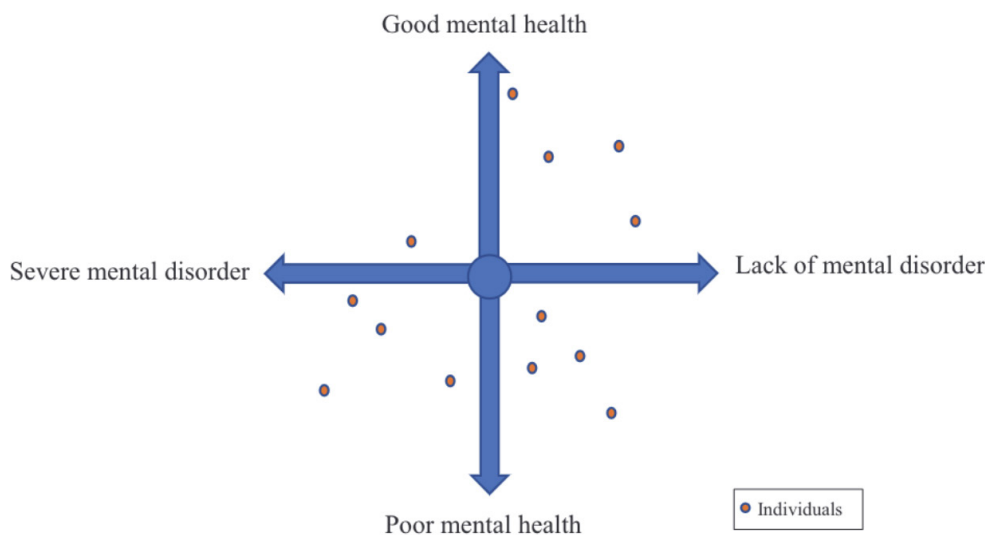
In contrast, mental disorder is a clinically significant and sustained emotional, cognitive and/or behavioral disturbance, in which basic psychological processes such as emotion, motivation, cognition, consciousness, behavior, perception, sensation, learning, language, etc. are affected. These symptoms make it difficult for the person to adapt to the cultural and social environment in which he/she lives, which can lead to some form of subjective distress (Figure 1).

Good mental health is composed of multiple dimensions that affect different areas of a person's life. In a recent review on this topic, we identified fourteen items to define good mental health (Table 1)[2,3].

Table 1		Items needed to define mental health	
1.- Knowledge about mental health	8. Self-care strategies		
2.-Attitude towards mental disorders	9. Social skills		
3.-Self-perception and values	10. Family and significant relationships		
4.-Cognitive abilities	11. Physical health		
5.-Academic/employment functioning	12. Sexual health		
6.-Emotions	13. Meaning of life		
7.-Behaviors	14. Quality of life		

### Conclusions:

**Mental health is something that goes beyond the lack of illness and is measured dimensionally and dynamically. The boundaries of mental health and mental disorder are defined by how mental health problems influence the functioning (social, occupational, academic, family, etc.) of the individual. There are multiple variables that measure the mental health of a population, even more so if the interactions between them are taken into account.**



**Figure 1** Dimensional scheme of both mental health and mental disorders, being fundamental for the latter their impact on the person's functionality.

## WHAT ARE THE MOST PREVALENT MENTAL DISORDERS?

Epidemiological studies on the prevalence of mental disorders in the community in Western European countries, including Spain, indicate, with a very consistent level of agreement, that the most common disorders are anxiety disorders, sleep disorders and affective disorders [4,5]. Many studies were conducted prior to the Great Recession of 2008 and the COVID pandemic, so from today's perspective these assessments must be considered conservative.

Specifically, estimates indicate that each year 38.2% of the European population suffers from a mental disorder, which, adjusted for age and comorbidity, corresponds to 164.8 million people affected. Common disorders are anxiety disorders (14.0%), insomnia (7.0%), major depression (6.9%), somatoform (6.3%), and alcohol and drug dependence (4%). Other less frequent disorders, but with great personal and health care repercussions, due to the seriousness they can have, are psychotic disorders, mainly schizophrenia (1.2%), bipolar disorder (0.9%) and personality disorders (1.3%). Also noteworthy is the prevalence of intellectual disability (1%), which is not a mental disorder, but is a risk factor for the presence of mental disorders and behavioral alterations (Figure 2).

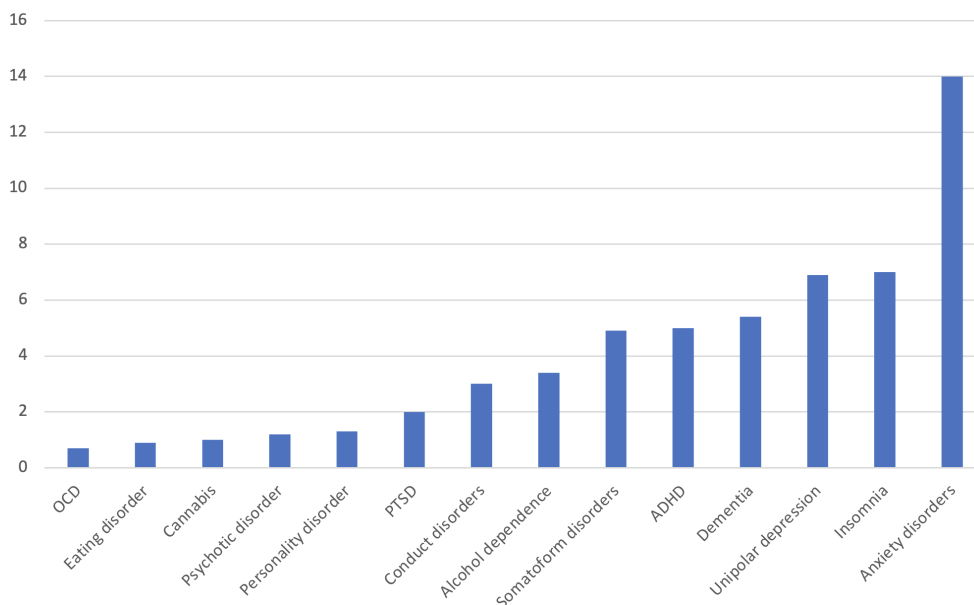
In terms of entities that are concentrated in an age range, we can highlight attention deficit hyperactivity disorder, with a prevalence of 5% in children under 18 years of age, and dementias, which have a prevalence of 5.8% in those over 60 years of age. With the exception of substance use disorders and mental retardation, there are no notable cultural or national variations.

The burden of mental illness is immense, due to the func-

tional disability it causes. It is estimated that 30.1% of the total burden of disease expressed in DALYs corresponds to neuropsychiatric disorders. The most relevant entities in this regard are depression (7.2%), dementia (3.7%) and alcoholism (3.4%). Although many sources, in different countries, reported increases in sick leave, early retirement and treatment rates due to mental disorders, rates in the community did not tend to increase in the pre-pandemic era, with some exceptions (e.g., the rate of dementia, related to population aging).

There is no doubt that the COVID-19 pandemic has had a negative impact on the mental health of the population, as it could not be otherwise. In this regard, a large number of "ad hoc" papers, based on cross-sectional Internet-based surveys of convenience samples, have reported that respondents were stressed, insomniac, anxious, and depressed [6]. This information is valuable because of its immediacy, but the most reliable data come from longitudinal studies with onset prior to the pandemic, allowing the impact of the pandemic to be assessed.

These studies indicate that the first phase of the pandemic, with the associated confinement, produced a clinically measurable increase in levels of psychological stress, as well as in anxious and depressive symptoms [7,8]. However, these levels were generally reduced after 6 months, although there is great heterogeneity in the magnitude of this improvement. [9,10]. Regarding the first phase, those most affected were young people under 35 years of age, women, and people living with children. As for the population sector with a more prolonged affectation, people with pre-existing mental disorders, disability or in socioeconomically disadvantaged social situations showed worse long-term resilience [11]. Nevertheless, and given that the effects of the pandemic are still lingering, it is still too early to make a full analysis of its impact on mental health.



**Figure 2** Annual prevalence (%) of mental disorders in Europe (Adapted from reference [5])

OCD: Obsessive-compulsive disorder; PTSD: Post-traumatic stress disorder; ADHD: attention deficit hyperactivity disorders

In Europe, mental disorders are the second leading cause of non-communicable diseases and account for 15% of the burden associated with disability (in terms of years lived with disability - YLD). In total, 16.9 million YLD occur (Figure 3).

#### Conclusions:

The most prevalent mental disorders in the community are anxiety disorders, sleep disorders and affective disorders, mainly depression. The COVID-19 pandemic has negatively affected mental health, especially in the first phase of the pandemic, coinciding with the situation of confinement. The clinical manifestations were mainly depressive, anxious and stress symptoms. Long-term effects appear to be minor, but studies are still needed to clarify this issue.

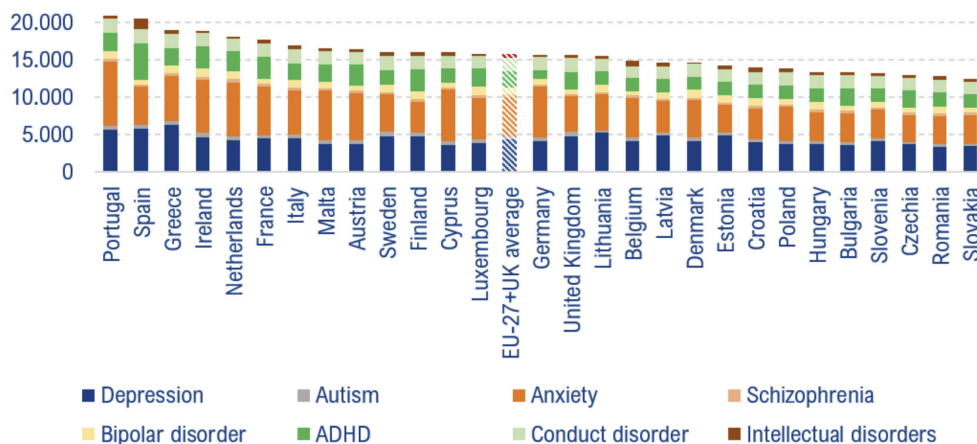
#### WHAT DATA DO WE HAVE ON MENTAL ILLNESS DURING THE COVID-19 PANDEMIC IN THE WORLD? WHAT HAS BEEN THE SITUATION IN SPAIN?

The impact of the COVID-19 pandemic on mental health has been studied from different perspectives. The first studies published, based on data from previous pandemics, warned about the potential impact of confinement on the increase of symptoms such as irritability, low mood, insomnia or post-traumatic symptoms, highlighting the usefulness of strategies such as altruism to counteract them [12]. Subsequent studies, with data collected during the COVID-19 pandemic, have confirmed the effect of confinement on mental health, with increased

anxiety (OR = 2.79; 95% CI: 1.467-5.324) and depression (OR = 2.0; 95% CI: 0.883-4.527), identifying as risk factors the presence of psychosocial vulnerability, previous mental illness and longer duration of confinement [13].

Several meta-analyses have identified high prevalence rates of depression, anxiety, insomnia or distress [13-15] coinciding with the pandemic. A meta-analysis that included 48 studies with data representative of the general population and with pre- and post-pandemic data estimated a 27.6% increase in cases of major depression and a 25.6% increase in cases of anxiety disorders globally by 2020, with the greatest impact in those regions where the impact of COVID-19 was greatest [14]. In a study of 55,589 participants from 40 countries who completed an anonymous online questionnaire between April 2020 and March 2021, the percentages were lower than in previous studies, with probable depression detected in 17.8% and distress in 16.71% [16]. However, the risk of depression was higher in participants with a previous history of mental health problems (31.82% vs. 13.07%), being the risk higher for people with bipolar disorder and self-harm (RR= 5.88) and no increase in suicidal symptoms was detected in those with no previous mental disorder [16].

One of the populations that have been studied as particularly vulnerable is persons who have contracted COVID-19. The largest 2-year follow-up study, which included 1,487,712 patients with COVID-19, showed, compared with other respiratory infections, a transient increased risk of depression and anxiety during the first few months with subsequent decline and increased risk of cognitive fog, dementia, or psychotic disorders that was maintained after 2 years of follow-up [17]. In



(\*\*) For ADHD, conducts disorders and intellectual disorders, the prevalence among <20 years old is considered.

**Figure 3** Prevalence of mental disorders in Europe per 100,000 inhabitants.

children, the pattern differed, with no increased risk of anxiety or depression, but increased cognitive deficits, insomnia or psychotic disorders were detected, in addition to other neurological alterations at 6 months of follow-up. Interestingly, these results were similar regardless of the predominant COVID-19 variants [17]. From the previous data, it is inferred that people with previous mental health problems and those who have contracted COVID are population groups in which diagnostic and intervention strategies should be implemented given their higher risk of psychopathology.

Spain has been one of the countries most affected by COVID in the early stages of the pandemic. For example, in Madrid it was necessary to convert 60% of psychiatric hospital beds and reduce by 75% the number of professionals attending psychiatric emergencies in order to attend patients with COVID-19 [18]. Regarding the effect on mental health, in general, the results are in line with those previously reported. A recent meta-analysis, including 28 studies with 38 individual samples and more than 82,000 participants (including general population, students and healthcare workers) found prevalences of anxiety symptoms of 20% (95% CI: 15-25%), of depressive symptoms of 22% (95% CI: 18-28%) and of insomnia symptoms of 57% (95% CI: 48-66%) [15]. A study conducted in Catalonia, after the first wave (between May and October 2020), coinciding with the beginning of the lifting of activity restrictions, involving more than 9,500 people from a cohort representative of the general population, found higher prevalence of anxiety and depression in people with previous mental disorders (37.8% vs 10.1% and 25.4% vs 4.9% respectively), with living alone being a predictor of major depression in people with previous mental disorder (RR = 1.6; 95% CI: 1.2-2.2) and the presence of interpersonal conflict and lack of financial stability predictors of mental disorder

in those with no previous history [19]. These data contrast with primary care data, which document an initial increase in anxiety diagnoses, with a subsequent decrease, and a lower than expected rate of depression diagnoses throughout the pandemic [20].

#### Conclusions:

The COVID-19 pandemic has had an impact on the mental health of the population, reflected above all in an increase in cases of anxiety and depression. In people with previous mental health problems and in those who have had COVID-19 infection, the impact has been greater. The results of studies carried out in Spain have yielded similar results. There is still little data on the medium-term consequences of the pandemic, especially in vulnerable populations, to prepare for future needs.

#### IS IT TRUE THAT THERE IS A SIGNIFICANT DEVIATION IN THE INCIDENCE OF SUICIDE? HAS IT HAD A PARTICULAR IMPACT ON THE ELDERLY POPULATION? WHAT INTERVENTIONS HAVE BEEN MADE? BY WHOM?

There is little data on the association between pandemics and suicides [21]. Suicides are preventable and require early detection, awareness and interventions adapted to sociocultural circumstances [22,23].

From the onset of the pandemic, experts predicted a "perfect storm" with an increase in suicidal behavior in the general population [24,25]. However, the data from the first months did not confirm the increase in suicidal behavior, and in many countries suicidal behavior even decreased during the months of isolation. On the contrary, after those first months,

we have witnessed a very significant increase in suicidal behavior, especially in the form of attempts in young women in whom, according to data from the Catalan Suicide Risk Code, suicidal behavior has increased threefold, coinciding with the last months of mobility limitations due to COVID-19. In consummated suicides we only have the INE 2020 data, a year in which in Spain we beat the historical records of consummated suicides, with this increase being especially important in men over 70 years of age [26,27].

Unfortunately, the bad data on the increase of suicidal behavior in young people still persist. In 2022, and in the absence of INE 2021/22 data, everything points to the fact that the economic crisis resulting from the Pandemic and the war in Ukraine will lead to an increase in the suicide rate.

Contrary to the above, a study in Canada investigated the potential impact of the pandemic on adult suicidal ideation. To do so, they compared self-reported suicidal ideation in 2020 versus 2019. The percentage of adults reporting suicidal ideation since the onset of the pandemic (2.44%) was not significantly different from the percentage reporting suicidal ideation in the past 12 months in 2019 (2.73%) [28].

#### Conclusions:

**The data available to us confirm the increase in suicidal behavior during the pandemic, according to INE 2020 data. The increase in deaths by suicide has been especially important in men over 70 years of age. The records of suicidal behavior (ideation + attempt confirm an increase especially in young women.**

### WHAT LESSONS HAVE WE LEARNED FOR THE FUTURE REGARDING MENTAL HEALTH? WHAT WOULD BE AVOIDABLE?

The COVID-19 pandemic has been unexpected, sudden and globalized in a very short time, forcing exceptional measures to be taken in a very short period, which have also affected mental health services. A study developed by the United Nations with data from 130 countries revealed an interruption in critical mental health services in 93% of the countries, highlighting the interruption in more than 60% of them for vulnerable populations and in more than 30% of emergency services or access to medication [29].

Adapting mental health systems to the pandemic has required combining infection control measures and changes in mental health access with the emergence of new needs [30]. This has meant, initially, reorganizing care, prioritizing COVID cases over psychiatric cases (reducing the number of beds available for psychiatry and, therefore, the average length of admissions in order to meet the demand with a limited capacity for care) and reassigning psychiatry professionals to other activities such as assistance to healthcare personnel or communication with the families of patients admitted or died of COVID-19 [31]. One of the main priorities has been to maintain care for patients with severe mental disorders or disabilities, especially difficult in a context of closure of

intermediate resources such as day hospitals, day centers or rehabilitation units, and to facilitate the dispensing of medication.

The difficulty of access to healthcare centers and the need to maintain follow-up, especially for the most vulnerable patients, have led to the development of new modalities of care in record time. One example is telemedicine which, despite being available previously, has made significant progress, minimizing previous barriers, including technological barriers, barriers related to privacy and security, and barriers related to the perception of clinicians and users [30]. The experience generated has made it possible to see the possibilities that telemedicine can offer at the care level and to consider its implementation as an opportunity for the development of new care modalities, bearing in mind, however, that it should not replace face-to-face treatments when these are necessary and considering the difficulties of access for some populations. Together with telemedicine, the development of home hospitalization programs or new forms of integrated care in the community, the facilitation of online prescriptions or the use of digital medicine to carry out screening and differential diagnosis processes are other strategies that have begun to be developed [30].

The response capacity of the health system during the pandemic has been unequal, with populations with the most disadvantaged socioeconomic profile experiencing the greatest impact on their mental health [13]. As an example, the closure of educational centers and the loss of opportunities not only academic but also of socialization that it has entailed, has had a special impact on children in more vulnerable evolutionary situations (pre and adolescence) and on those with previously compromised socialization capacity, such as children with disabilities [32]. The impact on healthcare and frontline professionals has been particularly relevant, being one of the areas of action that have been prioritized at the height of the pandemic by mental health systems, highlighting the need for health systems to put prevention and attention to the mental health problems of their workers at the center of the pandemic [30]. The limitations in the possibilities of assistance from primary care during the pandemic have been an added factor whose impact on the health system and mental health in particular must be evaluated.

#### Conclusions:

**Mental health has been severely affected during the pandemic, particularly in the most vulnerable. Mental health systems in the future will have to be more flexible and adapt to the needs of the moment, prioritizing the most severe cases and ensuring care for the most vulnerable.**

**The integration of research into care, the implementation of care quality indicators and the inclusion of users in the design of new services and their evaluation are necessary.**

## WHAT HAS BEEN THE IMPACT OF THE PANDEMIC ON THE MENTAL HEALTH OF THE ADOLESCENT POPULATION?

During the last two years, children and adolescents have been exposed to unprecedented events: confinement to their homes, school closures, reduced social interaction, fear of infection for themselves or their families, loss of loved ones, and uncertainty in their lives. Restrictions have had a particular impact on adolescents, who, due to their vital stage, need relationships with peers for their development and for the promotion of socialization and future autonomy.

Numerous risk factors have contributed to the deterioration of mental health in this population. These include the existence of a previous mental health problem or belonging to a vulnerable population subgroup (physical disability, minority groups). Regarding family factors, high parental stress has been observed in households with previous family conflicts, single-parent households, low-income families and families with children with special educational needs. Community factors include less access and social contact, especially with peers. All the aforementioned adverse factors can have a cumulative effect on the deterioration of adolescent mental health. In any case, it should not be forgotten that the family has been an important protective factor: greater closeness and communication with parents and the existence of structured routines, limited screen time, less exposure to news about the pandemic and adequate sleep schedules during confinement have been related to less psychopathology throughout the pandemic [33].

While there are a number of studies on child and adolescent mental health throughout the pandemic, findings have sometimes been inconsistent due to variability in the timing of assessment, the use of parent assessments, different restrictions in different countries, or different social contexts. There are two systematic reviews on the impact of COVID-19 on mental health in this population. The first one, conducted on the impact of confinement (61 articles including 54,999 children and adolescents), is a systematic review of the impact of COVID-19 on the mental health of this population [34], reports that confinement caused isolation and loneliness, irritability and anger, boredom and fear, and anxious and depressive symptoms in the adolescents. In addition, some previous disorders were exacerbated during this time, such as eating disorders, in which there may have been less monitoring of weight and food-related behaviors. Finally, a greater exposure to the Internet and social networks was observed, which was related to an increase in anxiety.

Another systematic review on mental health changes in children and young adults during the pandemic included 21 studies conducted in 11 countries on a total of 96,000 subjects aged less than 24 years [35], refers to a progressive deterioration in mental health, mainly in adolescents and young adults. An increase in the levels of anxiety, depression and psychological stress, an increase in negative affect, and the existence of greater isolation and feelings of loneliness during

the pandemic are observed. The fact of a greater worsening in older adolescents may be due to the greater need for social contact and interpersonal relationships at these ages. On the other hand, a greater deterioration of mental health has been observed in girls, probably due to the increase in depression and anxiety during puberty and to the worsening of eating disorders, not only during confinement but throughout the pandemic. On the other hand, a decrease in the use of mental health services has been observed, especially in the early phases of the pandemic. Unfortunately, many of these studies are not longitudinal, so it is difficult to establish differences by age group, gender, or between different cultures or health policies.

Finally, it should be noted that the pandemic has led to a rapid change in the use of health care services, with an increase in telemedicine. Sometimes the lack of privacy or the difficulty of means in families with lower economic means have hindered its use, and it has been more successful for adults than for adolescents. For this reason, throughout the pandemic, there has been a tendency, as far as possible, to return to face-to-face care. On the other hand, interventions have been developed aimed at improving anxious and depressive symptoms and other related and relevant problems to treat such as negative affect, emotion management, intolerance to uncertainty, feelings of loneliness and problems with peers. An important aspect will be to transfer specific interventions for mental health care in this population to other areas such as schools and primary care [36], in addition to those already carried out in the specific mental health care centers.

### Conclusions:

**The COVID-19 pandemic has had particularly negative effects on the mental health of adolescents, especially in those who were previously vulnerable, especially those who already had some previous mental health pathology. Both during confinement and throughout the pandemic, there has been an increase in social isolation and symptoms of anxiety and depression. The pandemic has mainly affected adolescent women, with a notable increase in eating disorders.**

## HOW HAS THE PANDEMIC INFLUENCED DRUG ADDICTION AND OTHER ADDICTIONS (SOCIAL NETWORKS, VIDEO GAMES, COMPULSIVE SHOPPING, PORNOGRAPHY)?

The impact of the COVID pandemic on substance addictions and other non-substance addictions (social networks, video games, compulsive shopping, pornography) has been clearly demonstrated [37].

There has been a trend in the general population toward increased alcohol consumption during the pandemic. The proportion of people who consumed alcohol during the pandemic ranged from 21.7% to 72.9% and those who consumed other substances ranged from 3.5% to 17.5% in general population samples [38]. Risk factors for increased alcohol consumption were loneliness, male gender, older age, higher levels of educa-

tion, loss of income, unemployment, poor physical health (overweight), and previous mental health disorders such as fear, anxiety, impulsivity, depression, anxiety and hopelessness [39].

Cannabis and nicotine use showed increasing trends, as did cocaine use, while MDMA (ecstasy) use showed a decrease [40].

Periodic analyses of wastewater in European cities suggest that the use of most drugs has been lower during the initial confinements, but was subsequently recovering. A comparison with 2019 showed similar overall use of most drugs with the exception of MDMA and methamphetamine, two drugs for which the levels observed in 2020 were lower in most of the participating cities [41].

According to the European Monitoring Centre for Drugs and Drug Addiction (EUMC) [41], "the drug market was remarkably resilient to the disruption caused by the pandemic". Drug trafficking adapted to the new conditions with changes in trafficking routes and methods, further enhancing the digital presence of the drug market.... ". Any reduction in consumption observed during the initial confinements quickly disappeared as social distancing measures were relaxed. Overall, there appears to have been less consumer interest in drugs generally associated with recreational events, such as MDMA, and more interest in those associated with home use. However, "the easing of restrictions over the summer was associated with an uptick in use levels." In addition, "survey data suggest that those who used drugs occasionally before COVID-19 may have reduced or even stopped using during the pandemic, but more regular users may have increased their use..."[42].

As for non-substance or behavioral addictions, we will review some of them:

#### **Gambling:**

Regarding gambling, one of the consequences of the global restrictions by COVID-19 was the closure of urban premises (gambling halls, bingos and casinos) and the cancellation of sporting events. Despite this, gambling did not decrease in popularity and, in fact, the supply of online gambling increased, which led most countries to establish a series of restrictions and recommendations (United Kingdom, Portugal, Spain, Australia). Studies using data obtained from large online gambling operators in Europe confirmed that during the pandemic there was a significant decrease in gambling expenditure [43].

#### **Pornography:**

Pornhub web, porn world leader, reported an increase in pornography use in several countries, with overall traffic increasing by more than 11% from the end of February through March 17, 2020. Even countries without easy access to the Internet also reported increases in the range of 4 to 24%. In addition, searches for pornography with the terms "coronavirus", "corona" and "covid" reached more than 9.1 million. These data may give insight into how people may cope with forced confinement, stress and/or free access to pornography. Circumstances related to the COVID-19 pandemic may also limit

casual sex and other behaviors, so people may use pornography as a coping strategy [44].

#### **Compulsive Buying:**

Compulsive shoppers often have unmanageable debts, which creates financial and emotional problems for them and their families. Therefore, compulsive buying, rather than excessive spending, is considered a repetitive and uncontrollable behavior, usually triggered by negative emotional states, where short-term positive rewards reinforce the behavior and lead to delayed negative consequences. Such rewarding, compulsive buying behavior has been observed among survivors of natural disasters, such as Hurricane Katrina and COVID-19. In the United States, in the six months following the onset of the pandemic, online impulse buying increased, especially after government financial assistance and among people who had more money to spend. Therefore, the most important determinant of compulsive buying was economic position [45].

#### **Video games:**

The confinement and quarantines of the coronavirus pandemic (COVID-19) generated greater involvement in online gaming. Initiatives such as "PlayApartTogether" that promote gaming to socialize and reduce stress attempted to achieve positive results. Although gaming can be a healthy coping strategy for most, it can also present risks for some vulnerable individuals. Thus, periods of social isolation with technology-based activity pose the danger of entrenching unhealthy lifestyle patterns, making readjustment difficult once the COVID-19 crisis is over. Nevertheless, there was a 75% increase in online gaming activity coinciding with the initial confinements, and in countries such as Italy, a 70% increase in internet traffic related to Fortnite games was detected. Steam, a gaming distributor, reported more than 20 million concurrent active users, and live-streaming platforms YouTube Gaming and Twitch reported a 10% increase in viewership [46].

#### **Social Networking:**

During the pandemic, a significant increase in the use of social networks such as Facebook, Instagram, Twitter and TikTok was noted [47]. A statistically significant increase in the number of women following appearance-focused Instagram accounts was found. In addition, significant relationships were found between frequency of Instagram use and body dissatisfaction.

These data suggest that confinement has had an impact on social media use, and this may be related to an increased drive for thinness and risk of eating disorders among adolescent and young women [48].

#### **Conclusions:**

**The pandemic increased alcohol abuse and nicotine, cannabis and cocaine use. The use of synthetic stimulants decreased during periods of confinement but increased again when restrictions were lifted.**



Regarding non-substance or behavioral addictions during the pandemic, gambling was severely restricted. Pornography experienced a marked increase and there was an increase in compulsive buying. The increase in video game use above 70% cannot be considered entirely dysfunctional as it was largely an adaptive mode of leisure that was considered optimal in that situation.

The use of social networks during the pandemic made it possible to maintain social connectivity and avoid isolation, although among patients with body image disorders it was harmful.

### CAN STRESS LEVELS BE OBJECTIFIED?

To answer this question, we must reflect on two issues: the concept of stress and its evaluation.

There are different conceptualizations of stress depending on the scientific discipline from which it is studied. This has consequences on its evaluation and on the results obtained. For medicine and clinical psychology, stress is an internal condition of the organism that appears as a response to a threatening situation. This concept is based on the "General Adaptation Syndrome" model proposed by Hans Selye, and is reflected in expressions such as "I feel stress". It is associated with the experience of anxiety. However, occupational health psychology adopts a psychosocial perspective of stress that incorporates the environmental conditions that trigger the stress response. Stress is defined as a perceived substantial imbalance between the demands of the environment and the individual's ability to respond under conditions where he or she perceives that failure to cope with the demands has significant negative consequences for him or her. Emphasis is placed on the characteristics of the environment and its appraisal by the individual versus the response of the organism from the clinical perspective. This concept is reflected in expressions such as "in my job there is a lot of stress". It is considered that an environment with high levels of stress can be successfully managed by some people in such a way that they will not experience high levels of anxiety despite perceiving stress, nor clinical symptoms.

Adopting one or the other perspective has implications on the assessment of stress and the results obtained. While the clinical perspective assesses symptoms in the individual, the psychosocial perspective will assess the individual's perception of demand and control of his or her environment. Therefore, the content of the assessment instruments will differ, as will the results offered. For example, the ISTAS21 [49] is an instrument for assessing work stress through the perception that workers have of their working conditions, while the STAI [50] assesses anxiety levels and the CESQT [51] assesses levels of burnout syndrome, a response to chronic job stress, but all three instruments are used for the assessment of job stress.

The usual way to assess stress is by interview and questionnaires or psychometric tests. The interview provides qualitative data that experts must interpret in order to diagnose whether stress is the cause of a health problem. In addition to this diag-

nosis, questionnaires make it possible to quantify the levels of stress perceived by a person, considering reference points obtained from one or more samples drawn from a population that represents the individual being evaluated, and whose scores on the questionnaire are distributed following the pattern of the normal curve. However, the questionnaires used must have been validated, that is, they must be valid and reliable. Considering validity, a questionnaire must have sufficient content validity, construct validity (factorial, convergent and discriminant) and predictive validity. In addition, there must be normative criteria or scales to interpret the scores and to be able to reliably classify the subjects who respond to the test at a certain level of stress. All these analyses should have been calculated with sufficiently large samples, representative of the population and selected with adequate methodological criteria [52].

So can objective determinations of the levels of stress experienced by an individual be provided? The answer is yes, with a high degree of probability, at least  $p < 0.05$ , and provided that certain requirements are met. At least: (a) agreement on the phenomenon we want to evaluate (cause vs. consequence), (b) that the construct being evaluated corresponds to the concept we want to evaluate (content validity), (c) if a test is applied, that it is valid and reliable, (d) that the scales or classification and diagnostic criteria have been obtained with samples of sufficiently large size and representative of the population from which the subjects to be evaluated come, (e) that the scales are up-to-date, and (f) that these scales can be applied and the results obtained can be interpreted.

However, in order to determine stress levels we encounter the problem that it is not a directly observable phenomenon. We must evaluate it indirectly through the observation of certain indicators that define stress (content and concurrent validity) and the responses offered by people in the evaluation process, so the degree of sincerity of their answers can be a handicap to objectively determine stress.

#### Conclusions:

Stress levels can be objectified with a high degree of probability. To do so, the different perspectives for conceptualizing stress (clinical vs. psychosocial) must be taken into account. These perspectives determine the assessment procedures and instruments used to evaluate it and may provide divergent data for the same subject or set of subjects. In addition, valid and reliable instruments should be used when assessing stress and should be applied by expert professionals who know how to use them and interpret the results. As a limitation to obtain objective determinations, it should be noted that it is necessary for people to be sincere in their answers to the assessment instruments.

### WHAT HAS BEEN THE IMPACT OF THE COVID-19 PANDEMIC ON PEOPLE WITH AUTISM SPECTRUM DISORDERS (ASD)?

The main symptoms of autism spectrum disorder (ASD) are

disturbances in social interaction and communication and the existence of repetitive and restrictive patterns of behavior and interests, and there may be other psychopathology in addition. Individuals with ASD and their families have particularly suffered adverse effects during the pandemic, especially during confinement. The abrupt closure resulted in decreased opportunities for social contact and interaction with peers, a fact of particular importance in this population. This increased social isolation and measures of social distance may have influenced the development and maintenance of social and communication skills and decreased emotional well-being in persons with ASD. In children, the symptoms of these disorders were clearly aggravated with an exacerbation of behavioral and emotional problems, fundamentally in children in whom these problems already existed previously [53]. In addition, it should not be forgotten that the affectation can be very different depending on the initial functioning of the patient, and on the existence or not of language. In our setting, a study evaluated the psychosocial status of children and adolescents with ASD in treatment in a specialized unit, during and after confinement, showing a worsening of the core symptomatology of ASD, an increase in the use of new technologies and the appearance of anxiety symptoms. This clinical and functional worsening caused an increase in the use of rescue medication mainly during confinement [54]. In the adult population, younger, female subjects with a previous diagnosis of another mental disorder had greater difficulty in coping with the effects of the pandemic [55]. However, it should also be considered that the fact that social demands were reduced during the pandemic may have benefited subjects with ASD, mainly adults, by improving their symptoms [56].

Worsening of typical ASD symptoms and added psychopathology has been associated with increased levels of parental stress. Throughout the pandemic families have experienced high levels of caregiver burden, anxiety and increased family conflict. These levels of parental stress have been associated with younger age of children with ASD. It has also been noted that the worsening of the disorder is less in families with good emotional support and high capacity to adapt to changes [57].

On the other hand, parents have reported a loss of institutional care support. In children and adolescents, the closure of schools, which play an important socialization role as well as providing structure and routines, and the lack of access to therapeutic interventions, have introduced significant stress, especially important in children with special educational needs. The disruption of routines and unpredictability due to the pandemic has increased parental concerns and led to increased care needs of the ASD population. The need for careful planning of time structuring and organization and the use of emotional regulation strategies in this population should be noted.

Finally, it should be noted that one of the negative effects of the pandemic has been the waiting list in health care facilities for the possible diagnosis and treatment of this disorder. Thus, the need for alternative strategies for diagnostic evaluations and therapeutic interventions has become evident.

At the therapeutic level, experiences have been studied using telemedicine that have proved effective in the treatment of these patients in pandemic situations [58]. At this point, we cannot forget the families with fewer resources, which usually have a greater intrafamily burden and a higher need for visits, and should be provided with easy access to diagnostic and treatment services.

#### Conclusions:

**During the pandemic, the problems of patients with autism spectrum disorders have increased. Both the main symptoms of the disorder have worsened and there has been the appearance of significant stress in parents and caregivers.**

## PART TWO: IMPACT OF THE PANDEMIC ON THE MENTAL HEALTH OF HEALTH CARE WORKERS

### WHAT WERE THE MENTAL HEALTH DISORDERS SUFFERED BY HEALTH CARE WORKERS, AND WERE THERE SIGNIFICANT DIFFERENCES WITH THOSE OF THE GENERAL POPULATION?

Although many of the studies conducted on mental health in health care workers have serious methodological limitations as they tend to be based on voluntary surveys rather than epidemiological studies with systematic evaluations, they all confirm that during the pandemic health care workers were exposed to a high level of stress and suffered significant mental health problems.

Data from a US national survey of voluntary, self-selected health care workers showed in a series of 1,685 participants that almost half of the health care workers reported severe psychiatric symptoms, including suicidal ideation, during the COVID-19 pandemic. Thirty-one percent of them had mild anxiety, 33% clinically significant anxiety, 29% mild depressive symptoms, and 17% moderate to severe depressive symptoms. Suicidal ideation was reported by 5% of the participants [59].

In a meta-analysis on the impact on the mental health of healthcare workers, a search of 18,609 articles was undertaken, of which 44 were chosen for the final analysis and 29 were subjected to meta-analysis. Insomnia, anxiety, depression, Post Traumatic Stress Disorder (PTSD) and stress were some of the psychological problems faced by healthcare workers. Overall, the joint prevalence of these mental health problems was higher among physicians, nurses, and older staff in the subgroup analysis [60].

In Spain, the MINDCOVID study, financed by the ISCIII, carried out a survey involving more than 9,000 professionals [61]. According to this study, up to 45% of the people surveyed were at risk of having mental illnesses, the most frequent being depression, anxiety disorders, post-traumatic stress disorder and substance abuse. The study data confirmed that the main risk factor for mental illness was a history of previous mental disorders and that the prevalence data was almost double that of the general population. Follow-up data from

this study confirm the high prevalence of risk and persistence of mental disorders in professionals who presented with them in the early stages.

#### Conclusions:

**The available data confirm the increased risk of mental illness to which health professionals were exposed during the early phases of the pandemic, a risk that seems to persist in many professionals at the present time.**

### WHAT HAVE BEEN THE RISK FACTORS FOR SUFFERING FROM ONE OF THESE DISORDERS?

Psychological distress was generally associated with female sex and younger age. Within professional categories, it appears that nurses suffered greater psychological distress, particularly if they worked on the front line, compared to other professionals with less direct contact with patients or infected persons [62,63].

Among the risk factors for developing depression, previous presence of a poor mental health status or the presence of pre-existing organic diseases, female sex, working in a secondary hospital and being on the front line having direct contact with infected persons have been found to be the most evident risk factors [64].

On the other hand, living in rural areas, having contact with COVID-infected patients and the presence of organic diseases were associated with obsessive-compulsive symptoms in healthcare workers.

Finally, not being able to access therapeutic or preventive interventions in times of need and barriers to the implementation of such interventions also had a negative impact on the mental health of professionals. Lack of equipment or staff time or lack of skills needed to provide supportive interventions for frontline workers were among those barriers that prevented workers from getting the help they needed to cope with the pandemic [65].

Some geographic differences were found, although not for all conditions assessed. Specifically, a higher prevalence of PTSD symptoms was found in professionals working in North America than in Asia.

#### Conclusions:

**The literature suggests that there were several risk factors for various mental health disorders during the pandemic. Female sex, being a nurse, proximity to patients with COVID-19, exercising in a rural setting, and having previous psychiatric or organic illnesses were some of the most frequently repeated factors in various studies.**

### HAVE THESE MANIFESTATIONS BEEN UNIFORM THROUGHOUT ALL WAVES OF THE PANDEMIC?

There have been changes in the mental health of workers

throughout the waves of the pandemic and there are several factors that could explain some of these changes [34,62,63].

In the first wave of the pandemic, healthcare workers, as well as the rest of the general population, faced a new threat, with more questions than answers and with a lot of inconclusive (if not contradictory or low quality) information in the media. The fear of the unknown had a great impact and, in general, the response was one of rapid adaptation to what was happening, and in most cases both healthcare professionals and the general population complied with the different regulations that were being established by the public administrations.

During the first wave, different coping mechanisms were activated at the psychological level by the general population and health professionals, who in many cases showed enormous levels of resilience and adaptive capacity. However, these mechanisms, in some cases, were depleted and were not sustainable in the medium or long term, resulting in the emergence of mental health problems. For example, the impact of confinement measures on the mental health of individuals, including health professionals and their families, has been found to be greater in the subsequent waves of the pandemic compared to the first wave. Economic and social problems associated with the pandemic also had a greater impact across waves and were associated with mental health problems.

It should be noted that health care workers received many expressions of support and affection during the first wave of the pandemic. Many people took to the streets and balconies to thank health professionals for the work they were doing. Although they did not disappear, the number of assaults on health workers decreased in some countries and there was a general atmosphere of respect and appreciation for the work of health workers. Over the following waves, these signs of support diminished and generally returned to previous levels. It should also be borne in mind, as mentioned above, that many people were already observing a decline in their ability to adapt.

Finally, the changes in the morbidity and mortality of the virus along the different variants should be noted. Initially, there was an under-diagnosis of infected persons worldwide, which prevented us from knowing exactly what the morbidity and mortality of COVID-19 was, since the data were mainly from persons who were admitted to hospital. Following the emergence of variants with higher morbidity and mortality, COVID-19 mutated and began to replicate more in the upper respiratory tract, which decreased mortality and the need for hospitalization in infected individuals. This has led to a relaxation in protective measures, and also to less fear and thus a potential reduction in acute mental health problems. This trend, however, has not been observed in mental health disorders and chronic mental health problems, which continue to appear.

#### Conclusions:

**Mental health alterations in healthcare workers have not been the same in the different waves of the pandemic. In the first wave, the response was one of rapid adap-**

tation to what was happening, activating different coping mechanisms at the psychological level that showed enormous levels of resilience and adaptive capacity. Mental health disorders in healthcare professionals have been higher in subsequent waves.

### IN WHAT WAY, AND TO WHAT EXTENT, HAS THE PANDEMIC INFLUENCED THE BURNOUT SITUATION OF HEALTHCARE WORKERS?

As noted in the webinar "Burnout in Spanish physicians. Before and after the pandemic", published by the Health Sciences Foundation in June 2020, healthcare workers saw how some of their working conditions deteriorated dramatically and how several professional demands that induced work stress were increased [66]. It was pointed out in that webinar that these included emotional demands and emotional labor, work overload, exposure to risks and hazards, lack of social support at work, and perceived lack of organizational justice and lack of social justice.

The change that induced this deterioration in working conditions occurred suddenly, in a very short period of time, so that people activated coping strategies to manage the new demands and their consequences. The result was embodied in responses derived from exposure to high levels of acute work stress, namely: physical exhaustion, emotional exhaustion, compassion fatigue, feelings of helplessness and vulnerability, fear and distress, and perceived abandonment and indifference on the part of the organization for which they worked. But at that time, burnout did not increase as a health problem resulting from the new working conditions.

It was also advanced in that webinar that the increase in the levels of burnout would come later, past the time of acute work-related stress, as it is a response to chronic work-related stress that has not been successfully managed. It is from 2022 onwards that we would expect to see a clearer increase in the levels of prevalence of burnout as a result of chronic exposure to these deteriorated working conditions, which have not changed after the exposure of professionals to successive waves of increase in the number of infections with health care demand and hospitalizations.

However, an exponential increase is not to be expected in the immediate future. People have coping strategies to manage stress and prevent health problems, and it is to be expected that most professionals working in healthcare will manage the new working conditions for a while, either through personal resources or, in the case of stress responses, by enlisting the help of healthcare professionals. It is also to be hoped that governments and organizations will react in time to avoid a collapse of the healthcare system. Empirical studies conducted in the USA on medical professionals show mixed results. Some studies show an increase in burnout levels between 2020 and 2021, but with non-significant differences [67]. In others, the levels are increased (e.g., 2018 = 40%, 2021 = 61%), but no statistical tests are performed to assess whether the change is significant [68]. And there are studies that conclude that burnout levels improve in 2020/2021 when compared to those obtained in 2017 [69].

Interesting are the results of the annual studies conducted by the Medscape organization on U.S. physicians [70]. Shows that in 2021 a rebound in the percentages of burnout cases begins, although this increase does not reach the values obtained in 2016 and 2017.

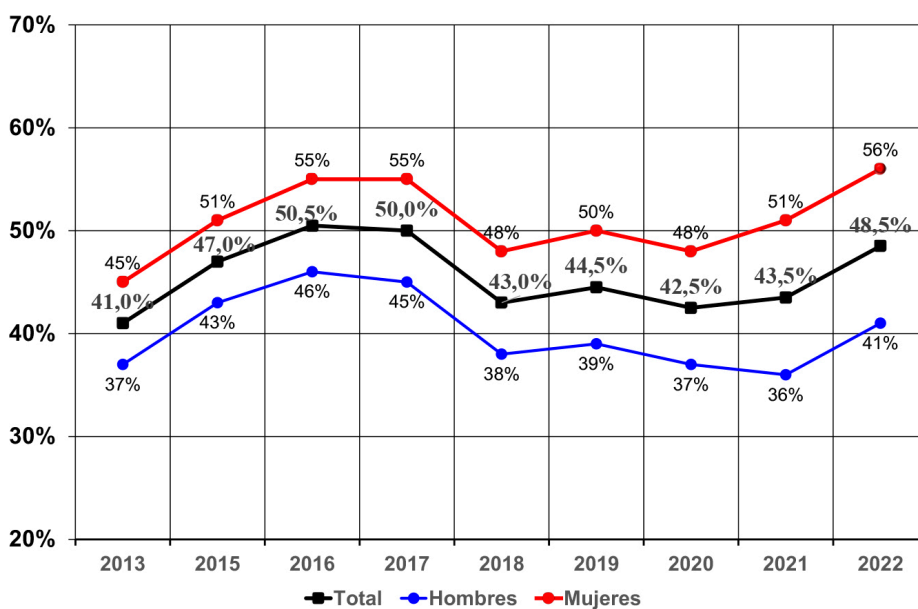


Figure 4 Annual trend of burnout percentages in U.S. physicians (Medscape annual series).

In the case of nursing professionals the results presented by Medscape in 2021 [71] also indicate an increase, from 12% of participants with high and very high levels of burnout in the registered nurse group before the pandemic to 37% after the pandemic. In Spain, the studies, with smaller and more specific samples than those of the USA, show a significant increase in the levels of burnout evaluated before, during and after the first waves of the pandemic [72].

The disparity of the results may be influenced by variables such as the geographical area where the study was conducted, the size and composition of the sample, the instrument used to collect data and the criteria used to identify levels of burnout.

#### Conclusions:

**As defined by WHO in ICD-11, burnout is the result of chronic stress in the workplace that has not been successfully managed. For this reason, during the first waves of the pandemic, no increase in its prevalence was observed. However, prevalence studies now indicate a slight increase in the levels of burnout in healthcare workers. Nevertheless, it is to be hoped that the ability of professionals to adapt and cope with the stressful work environment together with the reaction of governments and the management of healthcare organizations to modify working conditions will prevent such an increase. The differences observed in the results of the studies may be influenced by the procedure used to carry out the study (e.g., characteristics of the sample and questionnaire used for data collection).**

## WHAT HAVE BEEN THE MENTAL DISORDERS AFTER COVID IN HEALTHCARE WORKERS?

The development of mental disorders in healthcare workers as a consequence of patient care in the context of epidemic outbreaks caused by new microbiological agents has been previously described, with the SARS epidemic of 2003 and the Ebola outbreak of 2014 being examples of the impact that these situations can have on the mental health of healthcare workers in the front line of patient care.

These epidemic outbreaks share similar risk factors such as: high workloads, the need to perform medical activity under uncomfortable protective equipment and the fear of both contracting the disease and transmitting it to family members and cohabitants. All these circumstances can have a severe impact on the mental health of these workers, with the possibility of post-traumatic stress disorder, depression and substance abuse [73]. Sometimes, these pictures appear on previous mental disorders being health care a profession with significant suicide rates [74].

The SARS-CoV-2 pandemic has had a significant impact on the mental health of healthcare workers, with depression, anxiety and post-traumatic stress being the most prevalent clinical conditions. A meta-analysis of 65 studies involving almost 98,000 healthcare professionals from several continents estimates a prevalence of 21.7% for depression, 22.1%

for anxiety and 21.5% for post-traumatic stress disorder. This study only considered the three pathologies to be present if the symptomatology was at least moderate or if it was considered clinically relevant, thus excluding milder conditions that are likely to be less dysfunctional. These estimates are considerably high when compared with the general population, outside an epidemic context, which are around 3.5-4.5%, which shows the strong impact of epidemic conditions in the health population at the mental level [75].

The SARS-CoV-2 pandemic presents certain specific conditioning factors, mainly due to the high incidence of the disease worldwide and the associated health care collapse, which has led to situations such as the following in a generalized manner: the death of many patients unaccompanied by family members and healthcare workers, the need to wear protective suits making physical and sometimes verbal contact with patients impossible, the transmission of information to family members about the death or poor evolution of a patient by telephone rather than in physical presence, or the words of farewell from patients to their families by telematic means and in the presence of the healthcare worker. These situations described are commonly expressed by health care workers in the front line of care for these patients and exemplify the feelings of anxiety, frustration and abandonment sometimes reported by health care workers and which represent a high emotional burden [76].

A study analyzing the prevalence of post-traumatic stress at 8 months and carried out in Chinese health care workers (mainly nurses) in the first months of the pandemic identifies social isolation, the presence of chronic diseases and dissatisfaction with the job as risk factors. On the other hand, receiving adequate information on the characteristics of SARS-CoV-2 infection, having a good family structure and the development of clinical activity in adequately prepared structures appeared as protective factors [77]. A study of health care workers in France identified female gender, nursing profession, jobs considered to be of low rank and low levels of experience as risk factors [78].

Certain measures and interventions have shown efficacy in preserving the mental health of healthcare workers. Training in self-care of the professionals themselves is a first measure given that they often tend to prioritize patient care as they may consider dedicating time to self-care as a selfish attitude. Likewise, the normalization and recognition of mental disorders in this context in health professionals and the limitation of work time should be a priority.

The use of psychological counseling through telematic or face-to-face means, support groups or group therapy are considered beneficial by users, although some studies reflect the difficulties of access to these resources [79]. In a study evaluating healthcare workers in the United States, 20% of workers who felt they needed support or care for their mental health did not have access to these services and in those places where they were offered, only 11% attended and almost a third of workers were unaware that this care was offered by their facility [80].

**Conclusions:**

**COVID-19 has had a relevant impact on the mental health of healthcare workers, with depression, anxiety and post-traumatic stress being the most frequently developed symptoms.**

**It is necessary to develop and implement preventive measures and psychological assistance to healthcare professionals to avoid or mitigate as far as possible the development of mental pathology associated with the exercise of their healthcare activity.**

**HOW DOES THE HEALTH AUTHORITY VIEW THIS PROBLEM?**

The United Nations Inter-Agency Standing Committee on Humanitarian Assistance recommended from the outset that Mental Health and Psychosocial Support should be a central component of any Public Health response [81] and will be part of the comprehensive strategy aimed at preventing infections, saving lives and minimizing their effects as advised by WHO [82].

In Spain, the response was heterogeneous depending on the region. In the Community of Madrid, an early response was promoted through a Priority Mental Health Care Response Plan in the crisis by COVID19 [83]. The regional COVID plan was implemented in May 2020, without any continuity with the previous and subsequent plans and following a path of investment maintained over time with the recruitment of professionals as a top priority. This autonomous COVID plan was conceived in line with the guidelines published by the United Nations in a specific document [84] and included the importance of mental health promotion from a population approach in post-crisis actions in different sectors. It also considered it necessary to cover emergency care for mental health and psychosocial problems. The third proposal of the United Nations document spoke of the opportunity to build a mental health care organization for the future, of quality, to support the recovery of society, which requires a specific investment, aimed at three focuses: 1. Attention to health professionals, 2. Strengthening community services, and 3. User participation and first-person evaluation of the experience.

In the case of healthcare professionals, specific care is provided at the hospital, outpatient and primary care levels, with different approaches in the different pandemic phases. In addition, we have a pioneering and unique Program for the Integral Care of Sick Healthcare Professionals (PAIPSE) among the autonomous communities that works closely with the occupational risk services and has been reinforced from the outset with the increase of more than a third of its staff.

Returning to the general framework, neuropsychiatric diseases, which were previously at the forefront of the disease burden in Europe, acquire special relevance in the current post-pandemic context. Mental health is recognized as an area of high risk of affectation in all age groups, and especially in adolescents, young people, and vulnerable populations, making it essential to develop specific measures in addition to the usual ones to date.

We find ourselves in an unprecedented global scenario that may provide an opportunity to reverse the global historical gap that mental health problems are widespread, under-treated and under-resourced, as well as the gap between the estimation and allocation of resources to implement mental health plans [85].

**Conclusions:**

**The United Nations Inter-Agency Standing Committee recommended from the outset that actions in Mental Health and Psychosocial Support should be a central component of any Public Health response. In Spain, the response was heterogeneous depending on the territories.**

**IS THE PRESS AWARE OF THIS ISSUE AND WHAT ROLE SHOULD IT PLAY?**

The correct approach to mental health problems in the media is one of the main concerns of the board of the National Association of Health Informers (ANIS). For this reason, monographic congresses and specific presentations have been organized for the more than 600 communicators who are members of the association.

In addition, the association has collaborated with the Ministry of Health in the publication, in July 2020, of a document of recommendations for the media aimed at facilitating the approach to information on suicidal behavior and contributing to its prevention.

With regard to healthcare professionals, numerous reports and information have been published for years on the problems inherent in these professions with regard to mental health.

Initiatives such as PAIME have received wide coverage, especially in the specialized media. The impact of the pandemic on mental health and burnout has been one of the most emphasized aspects. And, from our point of view, the public's perception of this problem has been remarkable, especially during the confinement.

**Conclusions:**

**The problem of mental health of both the general population and health care workers is known by the media who have organized monographic congresses on this subject.**

**WHAT REFLECTIONS FROM AN ETHICS PERSPECTIVE DO THE PANDEMIC-DRIVEN MENTAL HEALTH ISSUES IN THE GENERAL POPULATION AND IN HEALTHCARE WORKERS RAISE?**

Classical psychiatry distinguished two types of factors in the production of mental disorders, which it called "endogenous" and "exogenous". Exogenous factors were environmental factors, therefore, external to the individual, which, by acting on him, ended up altering his psychic equilibrium. Endogenous factors, on the other hand, were characterized by being inter-

nal to the individual. In addition to this, they were traditionally considered unknown, although this has been changing as a result, above all, of advances in biochemistry and genetics. In classical psychiatry, this gave rise to the division of mental disorders into two major chapters, known as "psychoses" and "neuroses". It is true that psychoses included not only the so-called endogenous psychoses (schizophrenia, manic-depressive psychosis), but also others of exogenous cause, such as those produced by alcohol, drugs, certain microorganisms such as *Treponema pallidum*, or some heavy metals. But the psychoses par excellence were the endogenous ones. Exactly the opposite of what happened in neuroses, in which the cause of the disorder was always in conflict with some element coming from the environment.

The virus causing the current pandemic does not seem to produce psychiatric disorders per se, as was classic in the paradigmatic case of *Treponema pallidum* and progressive general paralysis. The current virus has not been proven to be the triggering cause of any major psychiatric disease, although, as we shall see immediately, this does not prevent it from contributing to the development of psychiatric disorder [17]. The fundamental disorders diagnosed throughout this pandemic belong rather to the field of what in classical terminology were called neuroses, disorders due to nosogenic factors of the environment that end up altering the mental equilibrium of people.

The COVID pandemic has significantly altered the living environment of human beings. It has forced rigorous confinement for months, disrupting family relationships as well as professional and work relationships. The consequence has been a very significant increase in the number of interpersonal conflicts. When the person was already a carrier of a latent predisposition to suffer from a mental disorder, this crisis has triggered it. Hence, it has also had an impact on the appearance of major psychiatric disorders. But above all, it has increased the number of interpersonal conflicts, triggering exaggerated or abnormal responses. This explains why cases of anxiety, depression, discomfort, self- and heteroaggressions, etc. have increased.

As was to be expected, these disorders have been all the more frequent the "weaker" people are. Situations of "crisis", and this pandemic has been to a high degree, test the so-called resilience mechanisms, affecting more the weaker personalities, or those who for different reasons are in a bad moment. This is fundamental to take into account. Crisis situations test the psychic strength of people and cause the weaker ones to fail in their response, so that they begin to show exaggerated or abnormal symptoms of discomfort, anxiety, insomnia, anguish, aggressiveness, etc. To help them overcome the situation, psychiatry uses two types of treatment, some pharmacological and others psychotherapeutic. The latter seek to re-educate the patient, strengthening his or her psyche and providing him or her with mechanisms for coping with crisis situations. These mechanisms, by improving the patient's relationship with his environment, will allow him to reduce his suffering and attenuate the effect of these life-altering symptoms.

What role can ethics play in this context, and can it be of any use?

A first important observation is that our relationship with the environment is conditioned by our own internal vitality. Ortega y Gasset tells us in a text entitled "Vitality, soul, spirit", how the level of our vitality is a determining factor in the way we face the environment. Ortega writes: "Who has not experienced it? When we separate from a certain person with whom we have been talking for a long time, we feel invigorated. And not because that person is very intelligent, nor because he has been kind: we owe him neither a teaching nor a favor. However, we come out of our dealings with that person refreshed, full of self-confidence, optimistic, saturated with impulses and plenitude, with a firm faith in existence. If we want to analyze the reasons for this corroboration and increase of vitality, we do not find any concrete one. But there are other people whose proximity, however brief it may be, leaves us battered and exhausted, full of mistrust and as if existence had taken on a sour taste. When we are separated from them, we are less than before and, so to speak, we have lost calories. Indeed, there are two kinds of beings: some are endowed with overflowing vitality, who remain in 'surplus'; others, with insufficient vitality, always in 'deficit'. The excess of the former contaminates us favorably, corroborates and nourishes us; the defect of the latter sips life from us, depresses and diminishes us." [86].

There are people with high vitality and people with low vitality. And, of course, there are also cases in which vitality, both high and low, acquires pathological overtones, as happens in manic and depressive disorders. But leaving aside these clearly pathological cases, it is clear that we all have what Zubiri called a "vital tone", and that this is very different in some situations and in others. The paradigmatic example of this is the current war in Ukraine. The Ukrainian soldiers are fighting for a cause they consider just and important, and therefore have a high "combat morale", while the Russian soldiers seem to be fighting for a cause they do not understand and which they find it difficult to assume as their own, or which they openly do not share. The former are demonstrating very high morale, while the latter seem to have their morale in the doldrums. It goes without saying that morale depends on many factors, one of which is education. One fights for ideas and ideals; if you prefer, for beliefs. This, which is so neglected in Western culture, is always fundamental, but especially in crisis situations. A demoralized people will be at the mercy of whichever wind blows the hardest, it will be a toy in the hands of anyone. And the same can be said of the demoralized person.

Hence the importance of morality, i.e. ethics. This is particularly clear in crisis situations. Ethics is the attempt to answer the question that every human being asks himself at some point in his life: "what should I do". Whoever is able to ask himself the question and has a clear answer, that is to say, who knows what he should do, it is very difficult for him not to carry it out with determination and conviction. And it is also very difficult for him to "burn out" or become depressed in the face of adverse circumstances. In this sense, ethics is a very

effective antidote against depression and discouragement, and against not all, but some of the disorders that Benjamin Rush and James Prichard baptized with the name of moral insanity, which French psychiatrists called "folie morale" and which in 19th century German psychiatry was known as "moralisches Irresein". In 19th century German ethics there was a term that played a very important role. It was "Gesinnung", a word that is difficult to translate, but which, among other possible meanings, has that of "disposition of mind". In Kantian ethics it is the fundamental element of the moral life of people.

The disposition of mind has an undoubted biological basis. Among us, López Ibor has dealt extensively with it [87]. But on that basis, let us say, biological or of first nature, there rises the one that we build with our acts, habits and ways of life, that is to say, what the classics called second nature. But not all acts and habits contribute to the same extent to the formation of the basic or fundamental dispositions of mind. The decisive ones are those that are learned, usually unconsciously, during the first stages of life. Hence, between the genetically determined traits and what is acquired in the course of life in contact with the environment, an intermediate space must be found, which German philosophers, especially from Kant onwards, designated with the word "Gesinnung". "Gesinnung" has to do not so much with concrete acts as with the "attitudes" that the human being learns during the first stages of his life, in the epoch of maximum cerebral plasticity, and which constitute the basis on which the different acts are later based. "Gesinnung", as the philosopher Max Scheler affirmed, consists in the "orientation" of one's own life [88]. It goes without saying that this topic goes far beyond the limits of this brief note. But it was important to bring it up in order to point out that the reactions of human beings, especially in crisis situations, are strongly conditioned, and even determined, not only by what was formerly called "temperament", and today "genetic information", but also by what in the old terminology was understood as "character". Temperament is "physical", whereas character has a large learned, and therefore "moral", component. Both are put to the test in crisis situations, such as the present one. The human response to crises is not only determined in people by their physical condition, that is, by their temperament, but also by their character, or by what Aranguren called their "disposition", which defines their moral condition. And this is, in my opinion, the great black hole of the current situation, how neglected is the formation of children and young people in this element, a determinant in much of the character of people and the functioning of societies. In their most deviant forms, these people make up the group of so-called psychopathies or sociopathies. But there remains the other large group of people, those considered "normal", possessing dispositions with very different degrees of resilience. It is crisis situations, such as the current one, that make this evident, and also destabilize the weakest or worst prepared.

#### Conclusions:

**Crisis situations test people's resources, both physical (illnesses, disabilities, biological deficits) and moral (people's moral resilience, "high morals" and "low mor-**

**als", etc.). Moral resources are acquired in education, in interaction with other human beings, and form the reservoir of people's values and beliefs. Crises trigger not only physical, but also moral claudications.**

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#### CONFLICTS OF INTEREST

The authors declare no conflicts of interest

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