

### 3 - THE EFFECTS OF QUARANTINE ON HEALTHY LIFESTYLE HABITS IN MEXICO.

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#### Summary

**Introduction:** The confinement that keeps families in their homes to combat the pandemic caused by COVID - 19, has caused children and adolescents to have considerably reduced the time that, in normal situations, they spent walking, running, enjoying any sport, playing in the schoolyard, on the street or in the park. An arrest that affects more than 125.9 million inhabitants in Mexico. On the other hand, prolonged periods of confinement can also have effects and consequences for mental and emotional health. The main **objective** of this research is to identify the state of health with respect to physical, nutritional and psychological activity of the Mexican population during quarantines that originate as a consequence of the COVID-19 virus epidemic. **Methodology:** Type of descriptive and cross-sectional investigation; Where 300 subjects from different parts of the Mexican Republic participated (178 men and 122 women) between 20 and 50 years old, a survey was applied during the month of June 2020. Taking as main **results** that 75% of the Mexican population considers the importance of establishing a new routine, which adapts to different contexts, the physical space, the tasks to be performed and the organization of those with whom they live with. **Concluding** that the permanent practice of physical activity as far as possible, together with a healthy diet, is essential to maintain good health, physical and emotional well-being, in addition to prevent the development of non-communicable diseases, taking it as a fundamental element factor to better manage the effect of quarantine, helping to form healthy lifestyle habits.

#### Keywords:

Health, quarantine, physical activity, technology, covid-19

#### Resumen

**Introducción:** El confinamiento que mantiene a las familias en sus casas para combatir la pandemia provocada por el COVID-19, ha provocado que los niños, niñas y adolescentes hayan reducido considerablemente el tiempo que, en situaciones normales, dedican a caminar, correr, disfrutar de algún deporte, jugar en el patio de la escuela, en la calle o en el parque. Una detención que afecta a más de 125,9 millones de habitantes en México. Por otro lado, los periodos prolongados de confinamiento también pueden tener efectos y consecuencias para la salud mental y emocional. El **objetivo** principal de esta investigación es identificar el estado de salud respecto a la actividad física, nutricional y psicológica de la población mexicana durante las cuarentenas que se originan como consecuencia de la epidemia del virus COVID-19. **Metodología:** Tipo de investigación descriptiva y transversal; Donde participaron 300 sujetos de diferentes partes de la República Mexicana (178 hombres y 122 mujeres) entre 20 y 50 años, se aplicó una encuesta durante el mes de junio de 2020. Teniendo como principales **resultados** que el 75% de la población mexicana considera la importancia de establecer una nueva rutina, que se adapte a los diferentes contextos, el espacio físico, las tareas a realizar y la organización de las personas con las que convive. **Concluyendo** que la práctica permanente de actividad física en la medida de lo posible, junto con una alimentación saludable, es fundamental para mantener una buena salud, bienestar físico y emocional, además de prevenir el desarrollo de enfermedades no transmisibles, tomándolo como fundamental. elemento factor para manejar mejor el efecto de la cuarentena, ayudando a formar hábitos de vida saludables.

#### Palabras clave:

Salud, cuarentena, actividad física, tecnología, covid-19

#### Résumé

**Introduction:** Le confinement qui maintient les familles chez elles pour lutter contre la pandémie causée par COVID - 19, a fait que les enfants et les adolescents ont considérablement réduit le temps qu'ils passaient, dans des situations normales, à marcher, courir, pratiquer n'importe quel sport, jouer dans la cour d'école, dans la rue ou dans le parc. Une arrestation qui touche plus de 125,9 millions d'habitants au Mexique. D'autre part, des périodes prolongées de confinement peuvent également avoir des effets et des conséquences sur la santé mentale et émotionnelle. **L'objectif** principal de cette recherche est d'identifier l'état de santé en ce qui concerne l'activité physique, nutritionnelle et psychologique de la population mexicaine pendant les quarantaines résultant de l'épidémie du virus COVID-19. **Méthodologie** : Type d'enquête descriptive et transversale ; À laquelle ont participé 300 sujets de différentes parties de la République mexicaine (178 hommes et 122 femmes) âgés de 20 à 50 ans, une enquête a été appliquée au cours du mois de juin 2020. Prenant comme principaux **résultats** que 75% de la population mexicaine considère l'importance d'établir une nouvelle routine, qui s'adapte aux différents contextes, à l'espace physique, aux tâches à accomplir et à l'organisation de ceux avec qui ils vivent. **Concluant** que la pratique permanente d'une activité physique dans la mesure du possible, associée à une alimentation saine, est essentielle

pour maintenir une bonne santé, un bien-être physique et émotionnel, en plus de prévenir le développement de maladies non transmissibles, en la considérant comme un élément fondamental facteur d'élément pour mieux gérer l'effet de la quarantaine, aidant à former de saines habitudes de vie.

**Mots clés:**

Santé, quarantaine, activité physique, technologie, covid-19.

**Resumo**

**Introdução:** O confinamento que mantém as famílias em suas casas para combater a pandemia causada pelo COVID-19, fez com que crianças e adolescentes tivessem reduzido consideravelmente o tempo que, em situações normais, passavam caminhando, correndo, praticando qualquer esporte, jogando no pátio da escola, na rua ou no parque. Uma prisão que afeta mais de 125,9 milhões de habitantes no México. Por outro lado, períodos prolongados de confinamento também podem ter efeitos e consequências para a saúde mental e emocional. O principal **objetivo** desta pesquisa é identificar o estado de saúde em relação à atividade física, nutricional e psicológica da população mexicana durante as quarentenas que se originam como consequência da epidemia do vírus COVID-19. **Metodologia:** Tipo de investigação descritiva e transversal; Onde participaram 300 sujeitos de diferentes partes da República Mexicana (178 homens e 122 mulheres) entre 20 e 50 anos, uma pesquisa foi aplicada durante o mês de junho de 2020. Tendo como principais **resultados** que 75% da população mexicana considera a importância de estabelecer uma nova rotina, que se adapte a diferentes contextos, ao espaço físico, às tarefas a serem desempenhadas e à organização daqueles com quem convivem. **Concluindo** que a prática permanente de atividade física na medida do possível, aliada a uma alimentação saudável, é fundamental para a manutenção da boa saúde, bem-estar físico e emocional, além de prevenir o desenvolvimento de doenças não transmissíveis, tendo como fundamental fator elemento para gerenciar melhor o efeito da quarentena, ajudando a formar hábitos de vida saudáveis.

**Palavras-chave:**

Saúde, quarentena, atividade física, tecnologia, covid-19

**Introduction**

Social isolation or quarantine helps us prevent or limit the transmission of an infectious agent, a biological toxin, or a chemical released to protect the health, safety, and public welfare (Villalobos, F., & Gloria, H. (2004). Therefore, isolation is for people with a contagious disease. Which are separated from other people until they are considered to be out of the contagion stage. This is used in hospitals where patients can infect others with their diseases, so in some cases care can be offered to people in hospitals, designated facilities, or at home. On the other hand, quarantine is for people who have been exposed to a contagious disease, but who are not sick, they are separated from others while showing signs of disease and contagion. For this reason, people can be asked to stay home to avoid the possible spread of disease to other people.

(Heymann, et. al, 2015). It examines recent experiences such as SARS, Ebola, H1N1 flu, Middle East respiratory syndrome, and equine flu in ten different countries. According to the study, isolation from quarantine has a psychological impact on people with consequences such as anxiety, detachment, stress, irritability, insomnia, these effects also cause long-term mental problems, even post-traumatic stress. Therefore, the following research aims to evaluate constructs of physical, nutritional, psychological and technological activity experienced during quarantine, caused by COVID-19 and its effects on healthy lifestyles, thus contributing to suggest a series of activities that will help in this stage of quarantine or better prevented in case of going through the same thing again for the benefit of health.

The global health problems derived from the appearance of COVID-19 have led to an economic crisis in Mexico, which has forced temporary closures of the activity, which has caused a decrease in the growth of the economy, causing increases in unemployment levels and underemployment in the Mexican labor market. Unlike other crises, the current one has its genesis in a health problem and not an economic one. Its duration and depth, rather than economic measures, is subject to the validity of the pandemic. In Mexico, in the current situation of confinement and given the reduction in economic activity, people expelled from the formal sector also do not find employment in the informal sector, so the labor market has been negatively impacted in both sectors and this leads to different factors within the main axes in relation to the economic and employment situation and health with reference to food and physical activity as well as psychological risk factors.

## Problem Statement

The confinement that keeps families in their homes in order to combat the pandemic caused by COVID - 19, has caused children, adolescents and young people to have drastically reduced the time that, in a normal situation, they spend walking, running, enjoying any sport, playing in the playground of your school, on your street or in your park. A detention that affects more than 125.9 million inhabitants in Mexico, which 9,552,000 of them are students; 8,217,000 from Elementary, Highschool and University students and 1,335,000 face-to-face university students. As mentioned in the National survey on the availability and use of information technologies in Mexican households (INEGI, S, 2019).

For this reason, it is necessary to implement, through the use of technological tools, the development of physical, psychological and coexistence activities that allow to reduce the effects caused by the pandemic and thereby, improve the health status of the Mexican population.

## Hypothesis

The implementation of the technology will help to promote the exchange of information on Physical Activity, Nutrition and Psychology that originate in the quarantine as a result of the COVID-19 virus epidemic.

## Objective

### General

Identify the state of health with respect to physical, nutritional and psychological activity of the Mexican population during quarantine that originate as a result of the COVID-19 virus epidemic.

### Specific

- 1 Compare physical activity levels before and during quarantine
- 2 Analyze the psychological effects that arise during quarantine.
- 3 Analyze feeding changes during quarantine
- 4 Assess the different factors, such as the use of mobile devices, internet use, hours of use and the use of different platforms that influence the modification of healthy lifestyle habits

## Methodology.

The present research work has a scientific basis whose approach is **Mixed**, since as stated by (Hernández-Sampieri, R., and Torres, C. P. M, 2018). It will be a process that collects, analyzes and links quantitative and qualitative data in the same study, on the other hand, it will recognize the study subjects as individuals who develop in a certain context, but at the same time it will offer quantitative data that allows the research to be validated; for example, it will allow knowing important data on the effects on physical activity, qualitative food and the the psychological aspects suffered by people caused by quarantine

It has a scientific basis whose **type** of documentary or bibliographic research is one that seeks to obtain, select, compile, organize, interpret and analyze information about an object of study from documentary sources, such as books, archival documents, hemerography, audiovisual records, among others. (Hernández-Sampieri, R., and Torres, C. P. M, 2018). Descriptive that allows to give validity to the research, describing the results obtained from the variables to be investigated analytically and not correlationally.

This research will be **descriptive** (Hernández-Sampieri, R., and Torres, C. P. M, 2018), since it aims to measure the degree of relationship that exists between two or more concepts or variables, in a particular context, that allows information on the effects of Physical, Nutritional and Psychological Activity that arises as a consequence of the quarantine.

The research design is of the **transversal type**, (Hernández-Sampieri, R., and Torres, C. P. M, 2018), because it will be applied during a specific period without allowing to see the evolution of the characteristics and variables observed by performing an analysis in a random group of subjects.

The population is made up of 300 subjects, belonging to different states of the country where the type of sampling was intended for convenience.

Independent Variable: Quarantine

Dependent Variables: Effects of Physical, Food and Psychological Activity and their application; Strange Variables: (Strange variables are all kinds of variables that are not controlled by the researcher and that threaten the internal and external validity of the study, such as for example, experimental death, which is that some subjects of the selected sample drop out of the study for any reason (illness, economic causes, family problems, etc.)

**Techniques and Instruments**

For the qualitative approach, as for the quantitative one, data collection is essential, except that its purpose is not to measure variables to carry out inferences and statistical analysis. What is sought in a qualitative study is to obtain data that will become information about people, living beings, communities, situations or processes in depth.

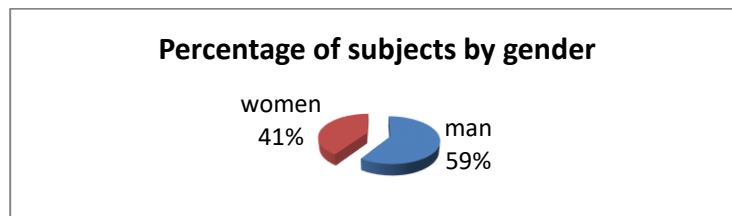
Data collection occurs in the natural and everyday environments of the participants or units of analysis. In the case of human beings, in their daily life: how they speak, what they believe, what they feel, how they think, how they interact, and so on. For this research, the COVID-19 Quarantine Effects Evaluation Test was applied, which consists of evaluating different physical, nutritional, psychological and technological constructs that produce quarantine due to the COVID-19 virus through 5 Likert scale questions. See annex 1.

**Results.**

The results obtained from the surveys applied to the participants are presented below. To carry out an analysis in a clearer way, a file was created and analyzed in the SPSS program, where all the data obtained were input and subsequently analyzed in tables and graphs with the Microsoft Excel program.

Next, the sample size of 300 subjects of the investigation that lasted (May-July 2020) will be analyzed, of which, there were 178 Men and 122 Women in total. As can be seen in figure 1.

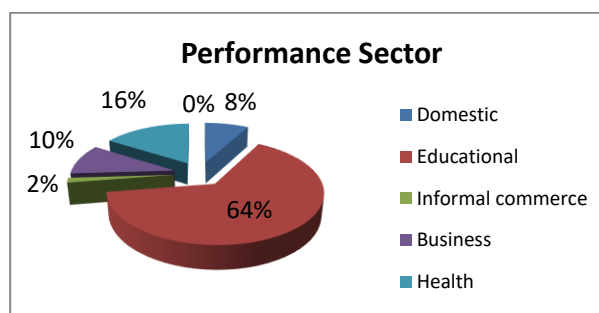
Figure 1. Percentage of subjects by gender.



Source. Self elaboration with survey results.

The main activity of the subjects is in the educational environment, being teachers of different levels of elementary, highschool, university and higher education, being those of basic education from different contexts the main participants, however, there is also a percentage of professionals from the health sector that were integrated as shown in figure 2.

Figure 2. Performance sector



Source. Self elaboration with survey results.

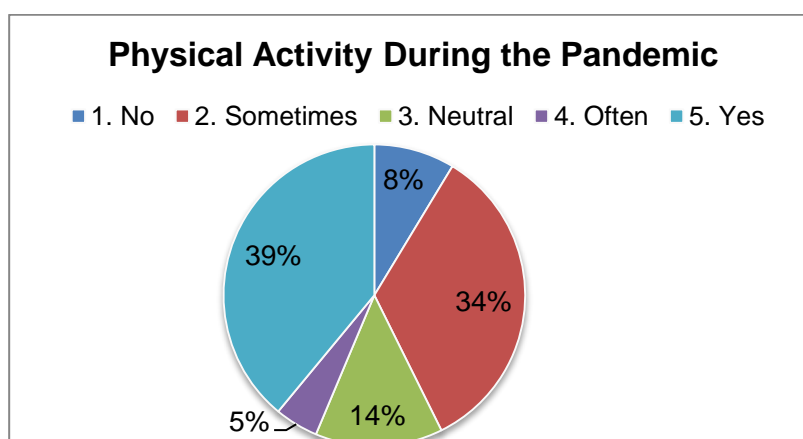
Healthy lifestyle habits allow us to know in a general way the lifestyle and its relationship between the practice of physical activity, eating and mental health issues. In such a way that 40% consider that before the pandemic their healthy lifestyle habits are regular, in what physical and eating activity refers, and only 20% mention that their habits are bad, highlighting that the 15% of the rest considers it as bad, and in a matter of communication, 98% consider the relationship with other people to be fair to good, as shown in table 1.

**Tabla1.** Healthy living habits before the pandemic

	Physical Act	Act Food	Emotions	Rest	Communication with the people around you
Bad	54	22	7	40	2
Regular	135	142	144	161	105
Good	111	136	149	99	193
TOTAL	300	300	300	300	300

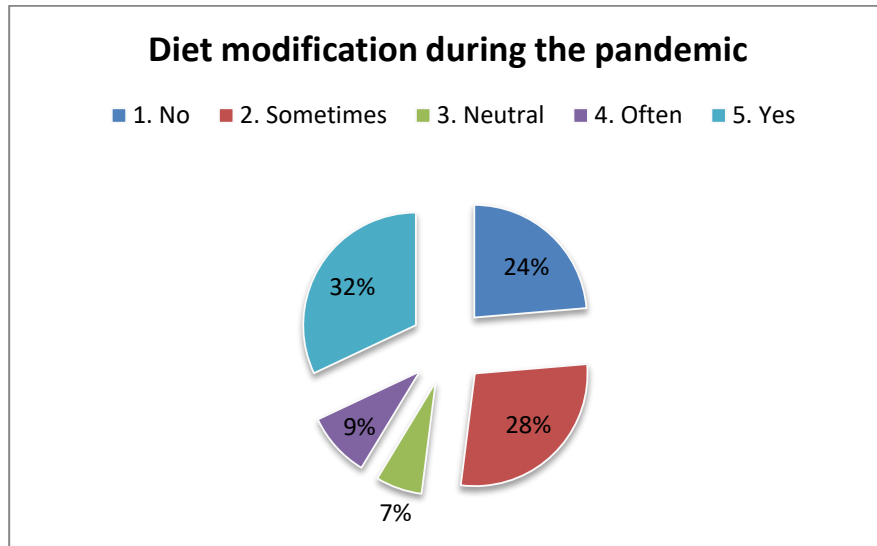
Physical activity is any body movement produced by skeletal muscles that requires energy expenditure. During the quarantine, only 60% of the population could perform physical activity in the place where they live and only 35% did it in a period of 30 to 60 minutes daily. On the other hand, 65% consider that the activities they carry out help them stay healthy and 38% positively modify the permanent practice of physical activity as shown in figure 3.

Figure 3. Physical Activity during the pandemic



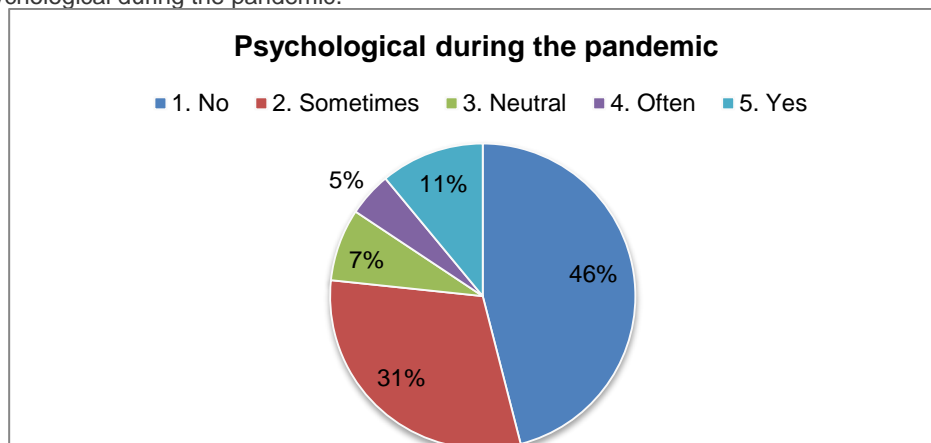
Eating habits are mainly related to the social, economic and cultural characteristics of a certain population or region. In this regard, during quarantine, 58% consider that their diet was modified both in portions and in the amount of junk food and 85% increased fat intake, maintaining the consumption of fruits as shown in figure 4.

**Figure 4.** Diet modification during the pandemic



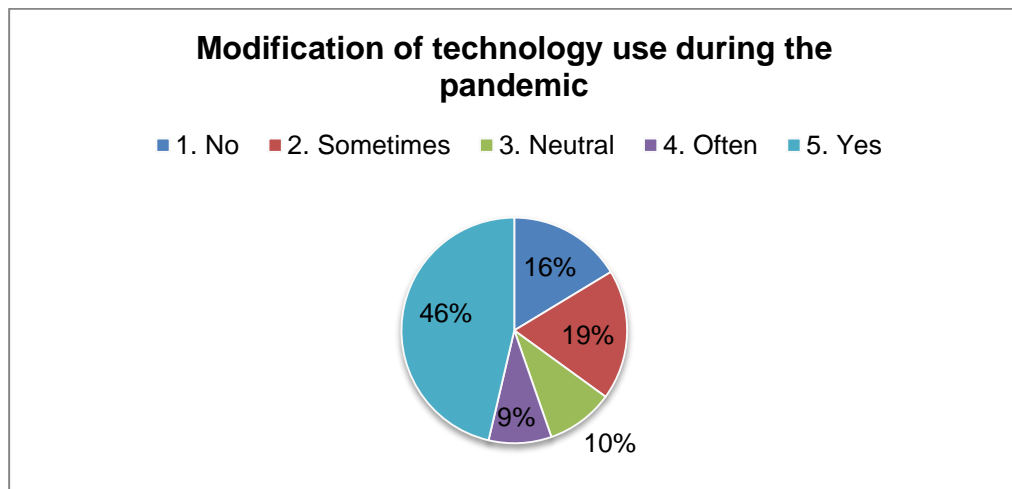
Regarding the psychological part, only 15% of the subjects mention that they do not suffer from anxiety or stress, however 75% feel confusion about the information in different media, only 50% fear being infected and 58% worry about their health and control of emotions. Figure 5.

Figure 5. Psychological during the pandemic.



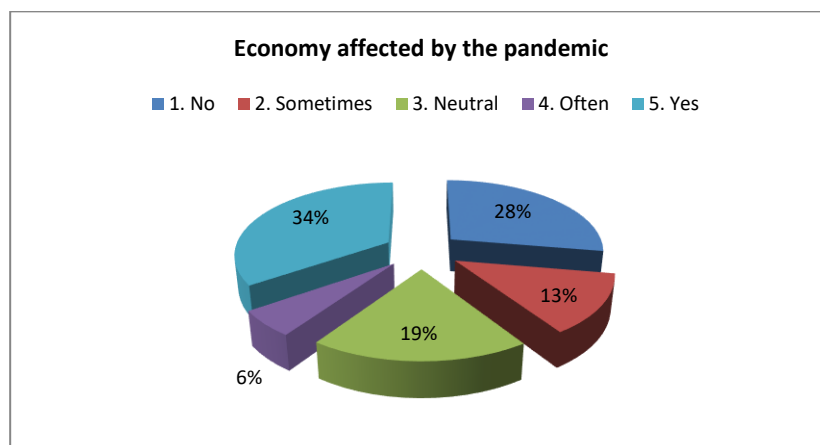
The use of technology during the pandemic increased considerably, given that 60% consider that they spend more time than usual on a television or a mobile device and 40% use the time to search for information that generates knowledge. Figure 6.

Figure 6. Modification of technology use during the pandemic.



Regarding the economic impact, the subjects surveyed based on their own experience, it is rescued that only 53% were affected occasionally or permanently at different times of the pandemic and 37% continued with economic stability. Figure 7.

Figure 7. Affected economy.



**Discussion**

The anomalous situation we live in today has radically changed the way in which we have treated the recommendations to improve health so far and thus reduce the percentage of children and young people who are overweight or obese, which places us in the first positions on the world. Home locked up time have reduced exercise time in different places which has contributed to having a significant impact on their health.

In such a way that the period of confinement supposes a significant reduction in daily physical activity, movement is more reduced in terms of space. This reduction in physical activity has negative effects on the musculoskeletal system, since it increases sedentary lifestyle, a risk factor for overweight, and a loss of the individual's aerobic capacities, which is expressed in terms of fatigue or decay; lack of physical exercise impact on children and adolescents confined during these days at home depends on each case.

(López, et. al 2017). Concluded that longer television viewing and more frequent use of mobile devices were associated with poorer body composition, cardiovascular risk, poorer prosocial behavior, poorer fitness and self-esteem. Agreeing that the person who performs physical activity on a regular basis, may lead to a decrease in performance, but probably having a good habit, once a period of isolation or quarantine has elapsed, they can recover their training and not having much of an impact. However, on sedentary people, these prolonged periods of inactivity can have a significant impact, both in terms of health and to recover the great or little habit acquired before quarantine. Therefore, it is essential, and especially in these cases, to encourage exercise at home during these days.

On the other hand, prolonged periods of confinement can also have effects and consequences for mental and emotional health, for (Rábago, Castro, Erazo, 2010). Among the most noteworthy, he mentions "increased insomnia and sleep problems, increased irritability and nervousness, and increased sadness and apathy." However, regular physical activity has been shown to have benefits for children and adolescents at all levels, physical, psychological and social. Based on this, we are faced with a worrying situation, with a population that in itself is not very active, that presents problems derived from it and that is confined at home for a long period of time. However, this circumstance opens a window of opportunity to introduce physical activity into people's daily routine, helping to benefit from these modifications or healthy lifestyle habits, not only on a physical level, but also on a psychological and emotional one, as that in this situation to be much more palpable.

Therefore, it is an ideal time to practice physical activity as a family. In addition, it is key that parents are an example. So let's see this quarantine as an opportunity to start taking care of ourselves through physical exercise, also helping to strengthen our immunity, trying to make an effort to continue practicing physical exercise on a daily basis. From now on it is more than evident that the levels of anxiety and the fear of uncertainty due to not knowing what may happen in the next few days may be stronger.

## Conclusions

Brooks, et. al, (2020). It raises what would be the stressors of quarantine that are associated with negative psychological effects. These include a longer duration of the quarantine period, a real fear of getting sick, frustration due to a change in the planning of tasks and events, boredom due to a change in routine, inadequate information supplies, loss of financial control and of course the stigma of a disease.

In such a way that is inevitably to think about quarantining, to stay in isolation or taking social distance, implying the modify way in which the day to day is carried out, that is, as a routine. Certain questions arise and concerns appear. How am I going to do it in this particular situation? How am I going to organize my day to day? How am I going to supply those activities that require me to be in motion? Ambivalence arises, on the one hand I have to stay active, connected, alert, functional, and on the other hand tremendously limited in space.

The foregoing, added to the uncertainty, being hyper-alert to everything that is happening, makes adapting to this new situation a challenge, since, although we rationally know that it is temporary, the uncertainty triggers the warning signals that can be configured from an adaptive disorder to post traumatic stress. Some of the symptoms that have been described are: irritability, nervousness and feelings of anguish and insomnia. Those that can evolve to panic attacks, panic, anxiety disorders and in extreme cases, it is possible to find post-traumatic stress disorders, with marked avoidance behaviors, which impact people differently.

Therefore, the first thing that is recommended is to go to reliable sources of information. Implementing information channels, mainly the website being the best resource. Another strategy is to maintain fluid communication with work teams or colleagues to facilitate official information and group contention. Remote work inevitably implies being more connected, being helpful to propose virtual meeting times to coordinate tasks. In the case of students, connecting virtually with teachers and classmates will help reduce uncertainty and will still generate an experience of contention.

Activate support networks, friends, family. For this, social networks, virtual meeting platforms, and even the cell phone can be an excellent ally since it allows us to stay connected, if it is used for that purpose and in a planned way. This is due to our social nature. On the other hand, establish a new routine that adapts to the context, the physical space, the tasks that must be carried out and the organization of the others with whom one lives. This is essential to mitigate the feeling of boredom, which is often present in these situations. Therefore, planning tasks, daily, work and family, will help us build a sense of control from day to day.

The permanent practice of physical activity as far as possible, along with a healthy diet, is essential to maintain good health, physical and emotional well-being, in addition to preventing the development of non-communicable diseases, taking it as a fundamental factor to overcome better carry the effect of quarantine by helping to form healthy lifestyle habits.

Finally, it is necessary to keep in mind what my responsibility is as a human being and connect with the deep sense of complying with the measures of self-care and care for the other, this being the central value that sustains living in community. Connecting with the meaning and purpose of the measures, from this perspective, is necessary to reinforce that care depends on everyone and that by being responsible for my care, I benefit others who, due to their conditions, are more vulnerable.



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