

Original Article

# Impact of the COVID-19 pandemic on the professional clinical practice of occupational therapy

*Impacto de la pandemia COVID-19 en la práctica clínica profesional de la terapia ocupacional*

*Impacto da pandemia COVID-19 na prática clínica profissional de terapia ocupacional*

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**How to cite:** Moreno-Chaparro, J., Calderón-Calvo, A., Cubillos-Mesa, C., Santamaría, K. J. S., & Martínez Sánchez, M. E. (2022). Impact of the COVID-19 pandemic on the professional clinical practice of occupational therapy. *Cadernos Brasileiros de Terapia Ocupacional*, 30, e3167. <https://doi.org/10.1590/2526-8910.ctoAO242731672>

## Abstract

**Introduction:** A series of restrictive health care measures emerged limiting actions that include the work of occupational therapists and proposing adaptations to provide care to people who require it. **Objective:** To identify the impact and adaptations in the care of Occupational Therapy clinical professionals due to the COVID-19 pandemic in Colombia. **Methods:** Cross-sectional study that applies an online questionnaire in January-February 2021 to Colombian occupational therapists in clinical/hospital settings. Sociodemographic variables, clinical professional practice, and the impact of COVID-19 in terms of job loss, modifications, and adaptations for the intervention were analyzed. Descriptive analyzes are performed by variable and a Chi-square test of independence is applied for associations between variables. **Results:** 382 Colombian occupational therapists participated. The average time of professional practice was 10.8 years. Of the total, 89% worked before the pandemic and continued their work, and at least 64% claimed that they lost their job due to COVID-19. Of those who continued to work, 20.5% did so virtually and 79.5% in a face-to-face clinic. On a virtual level, 89% did it due to a job requirement and at least 53% did it without training in telehealth. In face-to-face, 68% reported restrictions in the actions practiced and decreased referrals to therapy. **Conclusions:** The pandemic has resized the actions of the occupational therapist, has modified the means and forms of intervention, allowing the reinvention of their work.

**Keywords:** Occupational Therapy; Coronavirus Infections; Professional Practice; Professional Competence; Rehabilitation; COVID-19.

Received on Oct. 5, 2021; 1<sup>st</sup> Review on December 12, 2021; Accepted on Jan. 20, 2022.



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## Resumen

**Introducción:** Una serie de medidas restrictivas para el cuidado de la salud emergieron limitando acciones que incluyen el quehacer de terapeutas ocupacionales y proponiendo adaptaciones para brindar atención a las personas que así lo requieran. **Objetivo:** Identificar el impacto y las adaptaciones en la atención de los profesionales clínicos de terapia ocupacional a causa de la pandemia por COVID-19 en Colombia. **Método:** Estudio de corte transversal que aplica cuestionario online en enero-febrero de 2021 a terapeutas ocupacionales colombianos en ambientes clínicos/hospitalarios. Se analizaron variables sociodemográficas, ejercicio profesional clínico y el impacto del COVID-19 en cuanto a la pérdida del empleo, modificaciones y adaptaciones para la intervención. Se realizan análisis descriptivos por variable y se aplica prueba Chi-cuadrado de independencia para asociaciones entre variables. **Resultados:** 382 terapeutas ocupacionales colombianos participaron. El tiempo promedio de ejercicio profesional fue de 10.8 años. Del total, el 89% trabajaba antes de la pandemia y continuó sus labores, al menos el 64% adujo que perdió su trabajo por el COVID-19. De los que continuaron trabajando el 20.5% lo hizo de manera virtual y el 79.5% en clínica presencial. A nivel virtual, el 89% lo hizo debido a exigencia laboral y al menos el 53% lo realizó sin formación en telesalud. Presencialmente, el 68% reportó restricciones en las acciones practicadas y disminución de remisiones a terapia. **Conclusiones:** La pandemia ha redimensionado el actuar del terapeuta ocupacional, modificando los medios y formas de intervención y permitiendo la reinención de su quehacer.

**Palabras clave:** Terapia ocupacional; Infecciones por Coronavirus; Practica profesional; Competencia profesional; Rehabilitación; COVID-19.

## Resumo

**Introdução:** Uma série de medidas restritivas de atenção à saúde emergiram limitando as ações que incluem o trabalho do terapeuta ocupacional, requerendo adaptações para atender as pessoas que dele necessitam. **Objetivo:** Identificar o impacto e as adaptações no atendimento de profissionais clínicos de terapia ocupacional devido à pandemia de COVID-19 na Colômbia. **Métodos:** Estudo transversal que aplicou um questionário online em janeiro-fevereiro de 2021 a terapeutas ocupacionais colombianos em ambientes clínicos/hospitalares. Foram analisadas variáveis sociodemográficas, prática profissional clínica e o impacto da COVID-19 em termos de perda de emprego, modificações e adaptações para a intervenção. As análises descritivas são realizadas por variável e um teste de independência Qui-quadrado para associações entre as variáveis. **Resultados:** Participaram 382 terapeutas ocupacionais colombianos. O tempo médio de exercício profissional foi de 10,8 anos. Do total, 89% trabalhavam antes da pandemia e continuaram seu trabalho, pelo menos 64% afirmaram que perderam o emprego devido ao COVID-19. Dos que continuaram a trabalhar, 20.5% o fizeram virtualmente e 79.5% em clínica presencial. Em nível virtual, 89% o fizeram por exigência de trabalho e pelo menos 53% o fizeram sem treinamento em telessaúde. Presencialmente, 68% relataram restrições nas ações praticadas e diminuição dos encaminhamentos para terapia. **Conclusão:** A pandemia redimensionou as ações do terapeuta ocupacional, modificando os meios e formas de intervenção e permitindo a reinvenção do seu trabalho.

**Palavras-chave:** Terapia ocupacional; Infecções por Coronavirus; Prática profissional; Competência profissional; Reabilitação; COVID-19.

## **Introduction**

The pandemic generated by the coronavirus COVID-19 and the severe acute respiratory syndrome coronavirus (SARS-CoV-2) has globally affected daily participation, lifestyles, and experiences (World Health Organization, 2020). Since March 11, 2020, when the World Health Organization (WHO) declared the pandemic, a series of measures were taken for health care. Each country adopted various policies to control the social situation and gradually, with the advance of the pandemic, strict restrictions on health, education, community, and, in general, social activities were revealed worldwide (World Health Organization, 2020).

Measures such as staying at home, social distancing, hand hygiene, decreased interaction with objects, use of masks, and care with aerosols and mucous membranes imposed new forms of adaptation to approach care activities but above everything, to relationships with health professionals (Kraemer et al., 2020; Lancet, 2020; Tian et al., 2020). This situation was not different for occupational therapists, who based several of their activities on closeness to the patient, the use of the equipment and therapeutic material, and facial expression, among other actions that could no longer be performed normally.

All health and care professionals, from different fronts and lines, have been considering those who were affected by the virus in different ways. The change towards greater biosecurity due to the pandemic has led to the need to make adaptations in the way and function in which they work to take care of themselves and to provide the best care to people who require it (Sethi et al., 2020; Shreffler et al., 2020).

Although in the first instances medical treatment was the only healthy response to the COVID-19 crisis, rehabilitation has taken on an increasingly important role by going beyond avoiding death to resuming life activities in new normality (Escalon & Herrera, 2020). Currently, there is more evidence of care processes during and after COVID-19 from different rehabilitation science professionals (such as Speech-Language Therapists, Physiotherapists, and Occupational Therapists) (Bettger et al., 2020; Ceravolo et al., 2020; Morgan, 2020; Simpson & Robinson, 2020; Wade, 2020).

The role of occupational therapists was highlighted by the World Federation of Occupational Therapists (WFOT) since they are the professionals who interdisciplinarily contribute to the rehabilitation process. But above all, the professionals in charge of promoting the participation of the people in significant occupations, as well as in the processes of functional recovery, considering the needs and daily routines of each person, which were particularly affected by the pandemic (Hoel et al., 2021; World Federation of Occupational Therapists, 2020).

Intervention in several clinical scenarios by the occupational therapist with patients with acute health conditions and various pathologies and alterations has been recognized in the literature for its positive results with improvement in physical functionality for functional independence, management and prevention of delirium, and the articulation of the rehabilitation process with the family and the physical context of the person (Álvarez et al., 2017; Moreno-Chaparro et al., 2017, 2019; Schweickert et al., 2009). This situation has positioned the occupational therapist as an essential member of the rehabilitation teams in this pandemic (Asly & Hazim, 2020; Balser et al., 2020; Pan American Health Organization, 2020).

Despite all of the above, the new conditions given by the pandemic have made each of these professionals modify and approach their intervention and their work in different

ways to maintain their health care while they carry out their work, facing the social and physical barriers that were generated with social distancing and new hygiene measures for the care of the population (Robinson et al., 2021).

In Colombia, on March 17, 2020, the Presidency of the Republic declared a “State of Economic, Social and Ecological Emergency” through Decree 417 of 2020 (Colombia, 2020). Nearly sixteen months have passed since the adoption of these measures, which have brought consequences not only at the health system level but also at the economic and social level. Given the low amount of data at the national level, this study seeks to identify the impact and adaptations in the care of occupational therapists due to the COVID-19 pandemic in Colombia.

## **Methods**

### **Design**

This is an observational, descriptive, cross-sectional study with the application of a questionnaire to a specific population. The study followed the Standards and Recommendations for Strengthening Reporting of Observational Studies in Epidemiology (STROBE) (Von Elm et al., 2014).

### **Participants**

This questionnaire was focused on Colombian occupational therapists with more than one year (12 months) of professional experience in the clinical, health, biosocial, physical, and/or hospital dysfunction areas before the declaration of a pandemic in Colombia.

Despite the importance of these professionals in the health area, there are no previous studies or specific data from trade associations on the total number of occupational therapists in the country. For this reason, the Ministry of Health of the Government of Colombia was consulted directly to determine the number of professionals registered in the National Single Registry of Human Talent in Health (*Registro Único Nacional de Talento Humano en Salud - ReTHUS*). It reported that as of May 31, 2020, 6,255 occupational therapists are registered nationwide, being the most up-to-date information in the field (To July 2021).

To calculate the sample size, this last data was taken from the population in Colombia ( $n=6,255$ ), we assumed an average frequency of 50%, a margin of error of 5%, and a confidence interval of 95%, for a minimum total of 362 participants.

### **Measurement**

We designed and tested an online questionnaire-type instrument. Because there are currently no validated tools in the country to measure the impact on health care services, the research group constructs a series of questions that seek to answer the objective. This questionnaire was subjected to critical analysis by professors and researchers from the Universidad Nacional de Colombia and the Hospital Universitario Nacional de Colombia.

After the modification of the questionnaire by critical analysis, a pilot test was carried out with five occupational therapists who met the inclusion criteria for the study to test

the platform used, the general execution of the questionnaire, times, and general approach to the investigation.

The designed questionnaire included sociodemographic questions such as gender, age, department of residence, and the highest level of education completed. Regarding clinical practice, we included variables such as the total time of professional practice, the type of institution where they perform their activities, and the health care services.

To measure the impact (main variable), a characterization was carried out identifying whether the participant worked before the declaration of the pandemic, whether he lost his job because of it, and whether he currently works. The conceptual definition of this variable started from the current status or connection to work activity, considered the dimensions that include the areas and workspaces of the clinical occupational therapist and was measured from the self-report.

Specific questions were asked for each of the above answers, such as the reasons for job loss, whether they work face-to-face or virtually, and also training processes in biosafety or telehealth, attention times, forms of monitoring, the variation of costs per session, the restrictions in clinical practices, the use of personal protective equipment, the change in actions or use of instruments in the usual intervention.

## **Procedure**

It consisted of three phases. The first phase was focused on the design of the questionnaire, the second on validation by experts and pilot test application, and finally, the dissemination and collection of data. Regarding the last phase, the questionnaire was open between January-February 2021, it was disseminated by the main trade organizations such as the Colombian College of Occupational Therapy - CCTO, the Colombian Association of Occupational Therapy Faculties - ACOLFACTO, and the 11 university institutions that teach the program in Colombia to their graduates.

## **Statistical analysis**

Was performed with R Software (Version 3.5.0) (R Core Team, 2020). For the quantitative variables, summary and variability measures were performed, and for the qualitative variables, simple frequencies were generated. The Chi-square test of independence was applied to test significant associations between qualitative variables. Statistical significance was  $p=0.05$ .

## **Ethics**

This study complied with the ethical principles for biomedical research established by the Declaration of Helsinki (World Medical Association, 2013), the Council for International Organizations of Medical Sciences (Council for International Organizations of Medical Sciences, 2016), and at the national level, by Resolution 8430 of 1993 of the Ministry of Health of Colombia (Colombia, 1993). It was evaluated and endorsed by the Ethics Committee of the Faculty of Medicine of the Universidad Nacional de Colombia (*Comité de Ética de la Facultad de Medicina de la Universidad Nacional de Colombia*) with Code 018-190 of November 12, 2020.

Ethical considerations were ensured through voluntary invitations to participate, signing of the informed consent form, anonymization and de-identification of the responses obtained, especially in the principal investigators, and finally, the assignment of ID codes for the analysis of back data.

## Results

A total of 388 responses were recorded within the scheduled broadcast time. Six were excluded because they were filled out incorrectly or were incomplete. Therefore, the sample was consolidated into 382 occupational therapists. Table 1 shows the main sociodemographic data of the sample.

At a general level, the average time of professional practice was 10.8 years; there is evidence of a predominance of the females with 92.6%; the average age was 36.4 years; the main departments where the professionals were located were the capital city (Bogotá) with 45.3%, followed by Cundinamarca, Nariño and Valle del Cauca, which have the largest occupational therapy university training centers in Colombia. Finally, the bulk of respondents was located at the undergraduate level (58.1%) followed by specialization (31.1%).

**Table 1.** Sociodemographic data of the sample.

<b>Variable</b>	<b>n (%)</b>
<b>SAMPLE</b>	<b>382</b>
<b>Years of professional practice</b>	10.8 Years (1-46)
<b>GENDER</b>	
<b>Women</b>	354 (92.6%)
<b>Men</b>	28 (7.4%)
<b>AGE*</b>	36.4 years (20-70)
<b>Young adult (18-24)</b>	40 (10.5%)
<b>Adult (25- 45)</b>	253 (66.3%)
<b>Adult middle age (46-64)</b>	85 (22.2%)
<b>Older adult (&gt;65)</b>	4 (1%)
<b>RESIDENCE DEPARTMENT **</b>	
<b>Bogotá</b>	173 (45.3%)
<b>Cundinamarca</b>	30 (7.8%)
<b>Nariño</b>	30 (7.8%)
<b>Valle del Cauca</b>	30 (7.8%)
<b>Antioquia</b>	23 (6%)
<b>Others (21)</b>	96 (25%)
<b>EDUCATION LEVEL</b>	
<b>Undergraduate</b>	222 (58.1%)
<b>Specialization</b>	119 (31.1%)
<b>Master's degree</b>	38 (10%)
<b>Doctorate</b>	3 (0.7%)

\*Mean and ranges. \*\*The 5 most representative are presented.

Regarding the measurement of the impact, we observed that 93% (n=355) of the respondents worked before the pandemic. Of these 355 professionals, after the declaration of a “State of Economic, Social and Ecological Emergency” at the national level, 89% (n=316) were working at the time of application of the questionnaire.

Of the remaining, that did not work at the time of application (n=66), 64% (n=42) reported that they lost their job due to the pandemic. Among the cases reported, the closure of the institution (38.1%), the non-attendance of patients (33.3%), and the non-renewal of contracting (28.5%) were evidenced.

Finally, of the 316 currently working, 20.5% worked virtually and the remaining 79.5% continued with their face-to-face activities. Table 2 shows the details of both activities.

In the clinical practice and employment status of the respondents, the main variables on the type of contract were focused on the provision of services (51.6%), indefinite (32.6%), temporary (10.1%), or independent contract (5.6%). Considering that Colombian health professionals can work in more than one institution at the same time and that each institution offers several types of services, 28% work in-home care, followed by first-level care with 27%, third level of complexity with 16%, second level 15% and fourth level or high complexity 12%. Regarding the type of service provided in these institutions, 36% worked in outpatient clinics, 28% in-home consultations, 18% in general hospitalization, and at least 17% in Intensive or Intermediate Care Units.

On the other hand, the intervention emphasis by occupational therapy was aimed at performance in Activities of Daily Living (ADL) (18.5%), cognition (15.9%), leisure and free time (13.2%), sensory stimulation (12%), functional mobility (11.1%), maintenance of social skills (10.1%), accompaniment to the family (8.2%), reduction of delirium (5.8%) and cardio-respiratory capacity (4.7%).

### **Virtual activities**

For this modality, the reason why the virtual activities were interrupted was specified, showing that 89% were due to a direct request from their employer and 10% due to their own will. Among the results, it is noteworthy that only 46% of the therapists have received some type of training for virtual assistance, assistance time has increased by 47%, remote monitoring or follow-up occurs in 90% of the cases and, in this situation, the preferred means of monitoring is the videoconference (60%) and the telephone call (24%). Although times have increased and follow-up activities continue, 64% of professionals report that costs have remained the same and, contrary to expectations, 34% reported that they had decreased.

### **Face-to-face activities**

In continuous face-to-face activities, it was identified that 54% of respondents had received training in the management of patients with Sars-Cov-2/COVID-19 and that only 28% reported taking frequent or routine virus detection tests. Despite the above, the respondents indicated that personal protection elements were frequently increased or delivered in their workplaces by 81%. It was also reported that the practices and

measures adopted to continue their work include frequent hand washing, use and replacement of face masks, disinfection of material, and preventive distancing.

**Table 2.** Intervention details by specific subtopic.

<b>Variable</b>	<b>n (%)</b>
<b>VIRTUAL ASSISTANCE</b>	
REMOTE ASSISTANCE TRAINING	
Yes	30 (46%)
No	35 (53%)
ASSISTANCE TIME	
Increased	31 (47%)
The same	21 (33%)
Decreased	13 (20%)
REMOTE MONITORING	
Yes	59 (90%)
No	6 (10%)
SESSION COST	
Increased	1(2%)
The same	42 (64%)
Decreased	22 (34%)
<b>FACE-TO-FACE ASSISTANCE</b>	
COVID19 PATIENT MANAGEMENT TRAINING	
Yes	138 (54%)
No	113 (45%)
ASSISTANCE TIME	
Increased	27 (10%)
The same	130 (51%)
Decreased	94 (37%)
RESTRICTION OF ACTIONS PRACTICED	
yes	172 (68%)
No	79 (31%)
<b>GENERAL</b>	
REFERRALS	
Increased	64(20%)
The same	98 (31%)
Decreased	154 (48%)
CARE PROTOCOLS	
Yes	193 (61%)
No	123 (39%)
CONTRACT TYPE	
Provision of services	163 (51%)
Undefined	103 (32%)
Temporary	32 (10%)
Independent	18 (6%)

Regarding clinical activity, referrals to the service have decreased by 48%, the time has been reduced in 37% of cases, and actions and activities have been restricted by 68% such as: 1) the use of therapeutic material and equipment; 2) contact, proprioceptive stimulation and physical means; 3) group or joint work between patients; 4) free interaction with the patient and her families; 5) the closure of therapeutic spaces such as gyms, and finally, 6) the impossibility of accompanying the processes of feeding, dressing, and hygiene. On the other hand, it was evident that only 61% of clinical workspaces contain specific management protocols. Based on these protocols, interventions have focused on activities of daily living, cognitive performance, leisure and free time, sensory stimulation, and mobilizations.

Finally, when evaluating the associations between the variables, we observed that the higher the level of training of the therapists in telecare, the remote monitoring of patients was greater ( $p= 0.004$ ). On the other hand, the type of contract determined the face-to-face activity ( $p= 0.001$ ) as well as the increase in the supply of personal protection elements ( $p= 0.001$ ), and the majority reported restriction of professional practices ( $p= 0.028$ ). Training for the management of patients with COVID-19 was related to a greater supply of personal protection elements ( $p= 0.001$ ) and the existence of a care protocol in clinical institutions for patients with COVID-19 ( $p= 0.001$ ). In the same sense, the protocol was associated with the supply of personal protection elements ( $p= 0.001$ ) and the routine taking of COVID-19 tests for occupational therapists ( $p= 0.027$ ).

## **Discussion**

The COVID-19 pandemic affected daily life and for occupational therapists in Colombia, it was no exception. The rapid response of health professionals, including therapists, led to adaptations in professional practice and this study sought to elucidate such adaptations, changes, and the impact that occupational therapists faced from the clinical or hospital area.

At a general level, the results of 382 participants showed sociodemographic data distributed towards the predominance of the females, the location in the main cities of the country, and a report of significant experience for the area, which validates the results obtained. Regarding the impact of the pandemic, job loss was identified in 11% of those surveyed and, of the remaining active, around 20.5% adapted their activities to virtual, considering it as a new form of care for occupational therapy.

The logic of the pandemic led to job losses due to the closure of health care centers, and the prioritization of spaces other than therapeutic ones. Adaptations were generated especially focused on virtual activities and the change in forms of care such as those that were usually carried out at home. The occupational therapist had to reinvent to adopt practices in virtual systems since it was identified that only 46% had virtual training, and more than 47% reported increased care times and the need to seek ways to monitor patients together with the use of different virtual or digital technologies.

ADL, cognition, leisure and free time, sensory stimulation, and mobility were the interventions that were identified with the greatest attention from the work of the occupational therapist. These are above all related to the hospitalization and deconditioning processes presented by patients with Sars-Cov-2/COVID-19, the long

medical treatments, and the impossibility of having other supports that would allow the transition from hospitalization to the daily routine. In the face-to-face activity, we identified that at least 54% of the respondents had training for the patient with Sars-Cov-2/COVID-19, which is striking since during the pandemic this was the main focus. A relevant point that emerged in the face-to-face activity was the need to have personal protection (reported by 87%) and the generation of restrictions in professional activities (reported by 68%) that were related to the use of therapeutic material, contact physical, group work, and free interaction; the latter is directly related to the restrictions initially stipulated by the WHO and in search of reducing transmission of the virus.

Different studies, like this one, have attempted to measure the impact of the COVID-19 pandemic on the practice of occupational therapy. At a specific level, the results were similar in terms of restrictions to exercise professional activity with evident changes in access or provision of services (Bettger et al., 2020; Coto et al., 2020; Ganesan et al., 2021; Hoel et al., 2021; Sethi et al., 2020). The studies by Ganesan et al. (2021) and Coto et al. (2020) revealed that at least 10% of the therapists or health-related professionals they surveyed stopped providing services. This finding is similar our results (Coto et al., 2020; Ganesan et al., 2021). These data must be read carefully due to the different moments of application of the questionnaires and suggest the need to understand the phases of the pandemic to be able to carry out more in-depth analyzes that reveal an impact over time.

Regarding interventions, this study is consistent with other research on the adoption of telerehabilitation and the adaptation of digital communication tools by occupational therapists (Coto et al., 2020; Ganesan et al., 2021; Hoel et al., 2021), as well as the need to reinvent procedures and therapeutic actions to evaluate, treat and follow up or monitor patients. Within the results of this study and as described in the literature, the different activities that an occupational therapist can carry out are supported, including rehabilitation during and after treatment or suffering from Sars-Cov-2/COVID-19 (Lew et al., 2020; Sheehy, 2020) and also to a unique approach to the care of family members and health professionals from mental and occupational health (Morrison & Silva, 2020). Another valuable element to highlight is the focus of the interventions, the correlation with previous results is accompanied on the one hand by the need for rehabilitation in ADL and cognitive, but also by the restrictions in time, physical contact, and the use of spaces with therapeutic teams (Coto et al., 2020)

The training and education of therapists to face activities in the context of the pandemic is a relevant issue. The study by Hoel et al. (2021) identified that therapists felt relatively prepared, and the study by Ganesan et al. (2021) that 67.3% of therapists had received management guidelines. These results are similar with a report of 54% and with the need for more training/education for a correct intervention of the patient.

The use of personal protection elements was another topic explored in the studies. As in the study by Coto et al. (2020), in Colombia, the access and routine use of these elements is also pointed out. However, access to routine COVID-19 tests at work was very low with a report close to 28%, while in the literature was 49.2% (Coto et al., 2020).

In Latin America, a study carried out by the Argentine Association of Occupational Therapists (Burin et al., 2021) revealed that 56% of its sample adapted their professional practice to virtual media, different from the results presented by 20.5%.

This fact must be considered with caution because the target population in the Argentine study practiced in all areas of performance and the results presented here were only at the clinical or hospital level. Regarding the suspension of care at the rehabilitation level, both studies identify similar rates. Finally, there is a similar percentage in professional training for the management of patients with COVID-19, with 51% in Argentina and 54% in this study (Burin et al., 2021).

With the previous results, we observed the need to highlight some aspects related to the professional and work activities of occupational therapists during the pandemic, such as 1) the job insecurity of the group, due to the closure of health centers, the preemption of critical care services and respiratory hospitalization, the need to have virtual tools and work from home; 2) the lack of training in handling the virus, since during a pandemic it is an essential requirement for all health professionals; and finally, 3) the availability of routine tests and the use of protection elements, considering the need for screening to prevent the transmission and mutation of the virus, the self-care of professionals, and the safety of patients, family members, and their immediate context.

Among the strengths of this study, there is the follow-up of the STROBE standards and recommendations, the creation of a questionnaire validated by expert academic and clinical occupational therapists together with a test pilot, the report for the first time of the official register of therapists in the Single National Registry of Human Talent in Health (ReTHUS) and the calculation of the minimum sample for significant data. Also, it is necessary to mention the participation of organizations, associations, and universities that allowed the high contribution of clinical occupational therapists in Colombia.

The specific limitations for this study lie in the first place in the space-time of the application of the study, in that the results may vary depending on the moment in which the information is acquired and the sociopolitical, cultural, and contextual conditions in the area. On the other hand, there may be a selection bias due to the nature of voluntary participation, the motivations of the participants, or due to the over / under-reporting of data.

## **Conclusions**

The COVID-19 pandemic involved the change, transformation, and adaptation of actions, activities, routines, and chores of humanity. These affected the professional performance of the Colombian occupational therapist who reinvented his clinical and hospital performance routines towards safe face-to-face interventions, with modified times, restricting the use of therapeutic spaces and equipment, promoting interventions focused on Activities of Daily Living, and rehabilitation post-COVID-19 along with medical treatment.

The reinvention of the occupational therapy intervention towards the new information and telecommunication technologies led several therapists to privilege and reconfigure their work with virtual activities, implying new challenges in the evaluation, treatment, and monitoring of patients.

New reflections on what this pandemic leaves us must be put in tension and projected, especially on sensitive issues such as job insecurity, the lack and constant need

for training-updating for occupational therapy, and the conditions in which we do our work.

## Acknowledgements

To the *Colegio Colombiano de Terapia Ocupacional - CCTO*, the *Asociación Colombiana de Facultades de Terapia Ocupacional - ACOLFACTO*, to the Universities and networks of graduates who supported the dissemination of the study.

## References

- Álvarez, E. A., Garrido, M. A., Tobar, E. A., Prieto, S. A., Vergara, S. O., Briceño, C. D., & González, F. J. (2017). Occupational therapy for delirium management in elderly patients without mechanical ventilation in an intensive care unit: a pilot randomized clinical trial. *Journal of Critical Care, 37*, 85-90.
- Asly, M., & Hazim, A. (2020). Rehabilitation of post-COVID-19 patients. *The Pan African Medical Journal, 36*, 1-4.
- Balsler, A., O'Brien, S. P., & Wittman, P. M. (2020). Doing it right: OT meeting population needs with COVID-19. *The Open Journal of Occupational Therapy, 8*(4), 1-6.
- Bettger, J. P., Thoumi, A., Marquevich, V., De Groote, W., Battistella, L. R., Imamura, M., Ramos, D. R., Wang, N., Dreinhofer, K. E., Mangar, A., Ghandi, D. B. C., Ng, Y. S., Lee, K. H., Ming, J. T. W., Pua, Y. H., Inzitari, M., Mmbaga, B. T., Shayo, M. J., Brown, D. A., Carvalho, M., Oh-Park, M., & Stein, J. (2020). COVID-19: maintaining essential rehabilitation services across the care continuum. *BMJ Global Health, 5*(5), 1-7.
- Burin, M., Forcat, R., Montilla, S., Muras, D., & Salvatierra, M. de los Á. (2021). La práctica de la Terapia Ocupacional en el contexto del Aislamiento Social Preventivo y Obligatorio (ASPO) por COVID 19: Encuesta realizada desde la Asociación Argentina de Terapeutas Ocupacionales. In A. Albino, M. Battaglia, A. Ciampa, S. Daneri, & R. Forcat (Eds.), *Terapia ocupacional y covid-19. Nuestra Práctica profesional a partir del Aislamiento Social Preventivo y Obligatorio* (pp. 23-31). Ciudad Autónoma de Buenos Aires: Asociación Argentina de Terapeutas Ocupacionales.
- Ceravolo, M. G., Arienti, C., de Sire, A., Andrenelli, E., Negrini, F., Lazzarini, S. G., Patrini, M., Negrini, S., & International Multiprofessional Steering Committee of Cochrane Rehabilitation REH-COVER action. (2020). Rehabilitation and COVID-19: the Cochrane Rehabilitation 2020 rapid living systematic review. *European Journal of Physical and Rehabilitation Medicine, 56*(5), 642-651.
- Colombia. (2020, 17 de marzo). Decreto 417 del 17 de marzo de 2020. Por el cual se declara un Estado de Emergencia Económica, Social y Ecológica en todo el territorio Nacional. *Diario Oficial*, Bogotá.
- Colombia. Ministerio de Salud y Protección Social Bogotá. (1993). Resolución 8430, de 4 de octubre de 1993. Por la cual se establecen las normas científicas, técnicas y administrativas para la investigación en salud. *Diario Oficial*, Bogotá.
- Coto, J., Restrepo, A., Cejas, I., & Prentiss, S. (2020). The impact of COVID-19 on allied health professions. *PLoS One, 15*(10), 1-14.
- Council for International Organizations of Medical Sciences – CIOMS. (2016). *International ethical guidelines for health-related research involving humans*. Geneva: CIOMS.
- Escalon, M. X., & Herrera, J. (2020). Adapting to the coronavirus disease 2019 pandemic in New York City. *American Journal of Physical Medicine & Rehabilitation, 99*(6), 453-458.
- Ganesan, B., Fong, K. N. K., Meena, S. K., Prasad, P., & Tong, R. K. Y. (2021). Impact of COVID-19 pandemic lockdown on occupational therapy practice and use of telerehabilitation—A cross sectional study. *European Review for Medical and Pharmacological Sciences, 25*(9), 3614-3622.

- Hoel, V., Zweck, C. von, Ledgerd, R., & World Federation of Occupational Therapists (2021). The impact of Covid-19 for occupational therapy: findings and recommendations of a global survey. *World Federation of Occupational Therapists Bulletin*, 77(2), 69-76.
- Kraemer, M., Yang, C. H., Gutierrez, B., Wu, C. H., Klein, B., Pigott, D. M., Open COVID-19 Data Working Group, Du Plessis, L., Faria, N. R., Li, R., Hanage, W. P., Brownstein, J. S., Layan, M., Vespignani, A., Tian, H., Dye, C., Pybus, O. G., & Scarpino, S. V. (2020). The effect of human mobility and control measures on the COVID-19 epidemic in China. *Science*, 368(6490), 493-497.
- Lancet, T. (2020). COVID-19: protecting health-care workers. *Lancet*, 395(10228), 922.
- Lew, H. L., Oh-Park, M., & Cifu, D. X. (2020). The war on COVID-19 pandemic: role of rehabilitation professionals and hospitals. *American Journal of Physical Medicine & Rehabilitation*, 99(7), 571-572.
- Moreno-Chaparro, J., Cubillos-Mesa, C., & Duarte-Torres, S. C. (2017). Terapia ocupacional en unidad de cuidados intensivos. *Revista de la Facultad de Medicina*, 65(2), 291-296.
- Moreno-Chaparro, J., Cubillos-Mesa, C., & Duarte-Torres, S. C. (2019). Rol de Terapia Ocupacional en la Unidad de Cuidado Intensivo en Colombia. *Revista Ciencias de la Salud*, 17(1), 70-84.
- Morgan, A. (2020). Long-term outcomes from critical care. *Surgery*, 39(1), 53-57.
- Morrison, R., & Silva, C. R. (2020). Terapia ocupacional en tiempos de pandemia. *Revista Chilena de Terapia Ocupacional*, 20(1), 7-12.
- Pan American Health Organization – PAHO. (2020). *Rehabilitation considerations during the COVID-19 outbreak*. Washington: PAHO.
- R Core Team. (2020). *R Foundation for Statistical Computing*. Recuperado el 5 de octubre de 2021, de <https://www.r-project.org/>
- Robinson, M. R., Koverman, B., Becker, C., Ciancio, K. E., Fisher, G., & Saake, S. (2021). Lessons learned from the COVID-19 Pandemic: Occupational Therapy on the Front Line. *The American Journal of Occupational Therapy*, 75(2), 7502090010. <https://doi.org/10.5014/ajot.2021.047654>.
- Schweickert, W. D., Pohlman, M. C., Pohlman, A. S., Nigos, C., Pawlik, A. J., Esbrook, C. L., Spears, L., Miller, M., Franczyk, M., Deprizio, D., Schmidt, G. A., Bowman, A., Barr, R., McCallister, K. E., Hall, J. B., & Kress, J. P. (2009). Early physical and occupational therapy in mechanically ventilated, critically ill patients: a randomised controlled trial. *The Lancet*, 373(9678), 1874-1882. [http://dx.doi.org/10.1016/S0140-6736\(09\)60658-9](http://dx.doi.org/10.1016/S0140-6736(09)60658-9).
- Sethi, B. A., Sethi, A., Ali, S., & Aamir, H. S. (2020). Impact of Coronavirus disease (COVID-19) pandemic on health professionals. *Pakistan Journal of Medical Sciences*, 36(COVID19-S4):S6-S11.
- Sheehy, L. M. (2020). Considerations for postacute rehabilitation for survivors of COVID-19. *JMIR Public Health and Surveillance*, 6(2), e19462.
- Shreffler, J., Petrey, J., & Huecker, M. (2020). The impact of COVID-19 on healthcare worker wellness: a scoping review. *The Western Journal of Emergency Medicine*, 21(5), 1059.
- Simpson, R., & Robinson, L. (2020). Rehabilitation after critical illness in people with COVID-19 infection. *American Journal of Physical Medicine & Rehabilitation*, 99(6), 470.
- Tian, H., Liu, Y., Li, Y., Wu, C. H., Chen, B., Kraemer, M. U. G., Li, B., Cai, J., Xu, B., Yang, Q., Wang, B., Yang, P., Cui, Y., Song, Y., Zheng, P., Wang, Q., Bjornstad, O. N., Yang, R., Grenfell, B. T., Pybus, O. G., & Dye, C. (2020). An investigation of transmission control measures during the first 50 days of the COVID-19 epidemic in China. *Science*, 368(6491), 638-642.
- Von Elm, E., Altman, D. G., Egger, M., Pocock, S. J., Gøtzsche, P. C., Vandenbroucke, J. P., & Initiative, S. (2014). The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Statement: guidelines for reporting observational studies. *International Journal of Surgery*, 12(12), 1495-1499.
- Wade, D. T. (2020). Rehabilitation after COVID-19: an evidence-based approach. *Clinical Medicine*, 20(4), 359.

World Federation of Occupational Therapists – WFOT. (2020). *Public statement: Occupational therapy and rehabilitation of people affected by the Covid-19 pandemic*. United Kingdom: WFOT.

World Health Organization – WHO. (2020). *WHO Director-General's opening remarks at the media briefing on COVID-19*. Geneva: WHO.

World Medical Association – WMA. (2013). World Medical Association Declaration of Helsinki: ethical principles for medical research involving human subjects. *Journal of the American Medical Association*, 310(20), 2191-2194.

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Jaime Moreno-Chaparro and Alejandro Calderón-Calvo: Conception of the research idea; Methodology and analysis; data collection; Interpretation and discussion of results; and article writing. Cristian Cubillos-Mesa and Katherine Johanna Sánchez Santamaría: Conception of the research idea; Data collection; Interpretation and discussion of results; and article writing. Miguel Eduardo Martínez Sánchez: Conception of research idea and interpretation and discussion of results. All authors approved the final version of the text.

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