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**Original Article** 

# Intervention strategies used by occupational therapists in older people hospitalized for COVID-19

Estrategias de intervención aplicadas por terapeutas ocupacionales en personas mayores hospitalizadas por COVID-19

# Estratégias de intervenção aplicadas por terapeutas ocupacionais em idosos internados por COVID-19

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#### **Abstract**

**Introduction:** The Chilean population is made up of a large percentage of older people. Older people are one of the age ranges most affected by COVID-19, reaching high mortality rates and high hospitalization rates, a context in which they have required interdisciplinary care, including occupational therapy intervention. Objective: To explore the intervention strategies applied by occupational therapists to older people hospitalized for COVID-19, in hospital health facilities in the Metropolitan Region of Santiago de Chile, during the years 2020-2022. Method: Qualitative exploratory study with descriptive scope, where the semi-structured interview and subsequent content analysis were used as the data collection method. The sample is made up of occupational therapists who performed their duties in hospital health facilities with the target population during this period. Results: The strategies most used by the occupational therapists participating in this study are polysensory stimulation, early mobilization, cognitive stimulation, environmental management, positioning, remote communication, approach to activities of daily living, technical aids, nonpharmacological management of pain, sleep protocol, prevention and nonpharmacological management of delirium. Conclusion: In addition, it is mentioned that the interdisciplinary team was a facilitator in the interventions, which due to the pandemic caused a great workload in the professionals, affecting their mental health.

**Keywords:** Aged, Occupational Therapy, COVID-19, Healthcare Models, Hospitalization.

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#### Resumen

Introducción: La población chilena está compuesta en gran porcentaje por personas mayores (PM). Las PM son uno de los rangos etarios más afectados por el COVID-19, alcanzando altos índices de mortalidad, y altas tasas de hospitalización, contexto en que han requerido atención interdisciplinaria, incluyendo la intervención de terapia ocupacional. Objetivo: Explorar las estrategias de intervención aplicadas por terapeutas ocupacionales a personas mayores hospitalizadas por COVID-19, en establecimientos hospitalarios de salud de la Región Metropolitana de Santiago de Chile, durante los años 2020-2022. Metodo: Estudio cualitativo de tipo exploratorio con alcance descriptivo, donde se utilizó como método de recolección de datos la entrevista semiestructurada y posterior análisis de contenido, la muestra está compuesta por terapeutas ocupacionales que ejercieron sus funciones en establecimientos hospitalarios de salud con la población objetivo durante este periodo. Resultados: Las estrategias más utilizadas por las/los terapeutas ocupacionales participantes de este estudio son estimulación polisensorial, movilización precoz, estimulación cognitiva, manejo ambiental, posicionamiento, comunicación a distancia, abordaje de actividades de la vida diaria, ayudas técnicas, manejo no farmacológico del dolor, protocolo del sueño, prevención y manejo no farmacológico del delirium. Conclusión: Además, se menciona que el equipo interdisciplinar fue un facilitador en las intervenciones, las cuales debido a la pandemia causaban una gran carga laboral en los y las profesionales afectando su salud mental.

**Palabras clave:** Anciano, Terapia Ocupacional, COVID-19, Modelos de Atención de Salud, Hospitalización.

#### Resumo

Introdução: A população chilena é composta por uma grande porcentagem de idosos. Os idosos são uma das faixas etárias mais acometidas pela COVID-19, atingindo altas taxas de mortalidade e altas taxas de internação, contexto em que têm exigido cuidados interdisciplinares, incluindo a intervenção da terapia ocupacional. Objetivo: Explorar as estratégias de intervenção aplicadas por terapeutas ocupacionais a idosos hospitalizados por COVID-19, em estabelecimentos de saúde hospitalares da Região Metropolitana de Santiago do Chile, durante os anos 2020-2022. Método: Estudo exploratório qualitativo com escopo descritivo, onde se utilizou como método de recolha de dados a entrevista semi-estruturada e posterior análise de conteúdo.A amostra é constituída por terapeutas ocupacionais que exerceram funções em estabelecimentos de saúde hospitalares junto da população-alvo neste período. Resultados: As estratégias mais utilizadas pelos terapeutas ocupacionais participantes deste estudo são estimulação polissensorial, mobilização precoce, estimulação cognitiva, manejo ambiental, posicionamento, comunicação à distância, abordagem de atividades de vida diária, auxílios técnicos, manejo não farmacológico da dor, protocolo de sono, prevenção e manejo não farmacológico do delirium. Conclusão: Além disso, menciona-se que a equipe interdisciplinar foi um facilitador nas intervenções, que devido à pandemia ocasionou uma grande carga de trabalho nos profissionais, afetando sua saúde mental.

**Palavras-chave:** Idoso, Terapia Ocupacional, COVID-19, Modos de Intervenção, Hospitalização.

# Introduction

Population aging in Chile and the world is a reality that has been increasing. According to the World Health Organization (WHO), by 2030, one in six people globally will be 60 years of age or older; by 2050, the world population of people aged 60 years or older will have doubled and it is estimated that the number of people aged 80 years or older will triple between 2020 and 2050 (Organización Mundial de la Salud, 2022). Along the same lines, Chile, between 1950 and 2015, had a growth from 6.2 million to 17.7 million PM. In turn, according to the National Institute of Statistics (INE), OP in Chile represent 11.9% of the total population and it is estimated that by 2035, it will reach 18.9% of the Chilean population (Instituto Nacional de Estadísticas, 2020).

The normal aging process involves multiple changes. According to Creditor (1993), there is a decrease in muscle strength and aerobic capacity, vasomotor instability, decreased bone density, decreased ventilatory capacity, among others. In addition, according to the same author, there are risks associated with the hospitalization processes of OP, including immobilization, decreased plasma volume, accelerated loss of bone density, sensory deprivation, among others, which can cause deconditioning, functional impairment, disability and dependency.

On the other hand, the infectious disease of coronavirus (COVID-19) is defined as a viral and infectious disease that generates severe acute respiratory syndrome due to coronavirus type 2 (SARS-CoV-2) (Pedersen & Ho, 2020), where people may experience a respiratory condition that could be mild to severe and even cause death (Organización Mundial de la Salud, 2024a). This disease was declared a pandemic in March 2020 by the WHO, the same organization that reports on the alarming levels of spread and severity of the virus (Organización Mundial de la Salud, 2022). According to Ayala et al. (2023), the spread of COVID-19 correlates with waves of spread at the national level, where the second wave stands out (December 2020 to July 2021), which brought with it a national death rate of 123.5 deaths per 100,000 people, and in turn, generated an impact on the health network, mainly in the Intensive Care Units, which had an average occupancy of over 90% during this period. The OP population is considered the most affected age group by COVID-19, reaching high mortality rates, according to the study carried out in 2020 by Wu & McGoogan (2020), out of a total of 72,314 case records, patients fluctuated between 30 and 79 years of age, with an overall mortality rate reaching 2.3%, where correlated to pre-existing comorbidities, it should be noted that cases with high mortality rates occurred particularly in patients aged 80 years or older, reaching a lethality of 14.8% (Wu & McGoogan, 2020).

In addition to the above, OP who suffer from underlying or chronic diseases are more likely to become seriously ill from COVID-19 (Organización Mundial de la Salud, 2024b). Comorbidities greatly aggravate and increase the risk of an unfavorable evolution in the face of COVID-19 (Laccarino et al., 2020 as cited in Chojnicki et al., 2021).

According to the PAHO, hospitalizations for COVID-19 increased worldwide, and within the same organization, it is noted that hospitals were saturated with OP who had COVID-19 (Organización Mundial de la Salud, 2021), who, as Westgård et al. (2018) point out, belong to a population group that, upon entering a healthcare facility, often needs social-health care.

Particularly, functional deterioration (a significant aspect for occupational therapy intervention processes), depends on many variables such as age, gender, baseline status, cognitive impairment, delirium, previous institutionalization and/or comorbidities (Hidalgo, 2016). In addition, Gajardo's (2008) approach stands out, regarding the hospital environment and the increased probability of developing this functional deterioration.

Therefore, if the variables specific to the older person are considered, in addition to the risks associated with the hospitalization process and the hospital environment, the probability of the OP developing functional deterioration increases significantly, which could lead to a state of fragility, disability, dependence, increased need for care and even institutionalization, if there are no approaches or conditions that allow preventing or reversing it.

It should be noted that frailty is a process that is considered dynamic, which can be prevented and even reversed, due to the existence of health strategies and interventions that seek to reduce it (She et al., 2021), such as occupational therapy approaches.

# **Occupational Therapy Intervention**

The concept of intervention from the occupational therapy discipline can be understood as a process that includes the plan, implementation, and review of the intervention and the actions developed by occupational therapists together with the user to promote participation in occupations (American Occupational Therapy Association, 2015). Likewise, the American Occupational Therapy Association (2020) states that an intervention process consists of services provided by occupational therapists whose goals are set in relation to service delivery models.

Within a COVID-19 hospitalization scenario, different disciplinary interventions take place, among which the strategies proposed by Liang (2020), such as passive range of motion (ROM), to avoid contractures and shortening of soft tissues, and the use of active movements, which favor joint movement.

Typically, hospitalization for COVID-19 is addressed by an interdisciplinary team, in which the occupational therapy discipline has an active role, where the work is aimed at delivering rehabilitation in order to reduce hospital stay periods (Colegio Profesional de Terapeutas Ocupacionales de la Comunidad de Madrid, 2020). According to De Carlo et al. (2020), the role of occupational therapy during hospitalization for COVID-19 seeks to promote participation and execution of optimal occupational performance, safe development of activities of daily living (ADL), preventing oxygen desaturation, dyspnea and fatigue when performing activities, facilitating alternative communication in the intubation process, cultivating care for the mental health of users, postural adaptation, sensory-motor skills, cognitive intervention and sensory stimulation (taste/smell). Similarly, as Moreno-Chaparro et al. mention, occupational therapy interventions in users during periods of hospitalization due to COVID-19 were mainly correlated with rehabilitation needs such as intervention in ADL, cognitive stimulation, sensory stimulation and mobility, among others (Moreno-Chaparro et al., 2022).

A study carried out in Colombia reports that the pandemic caused a transformation in hospital spaces, prioritizing therapeutic spaces for those people who had Covid-19, which caused a change in professional work through safe interventions, focused on Activities of Daily Living, through the use of new technologies (Moreno-Chaparro et al., 2022). Therefore, from the Chilean perspective, this research focuses

on what are the intervention strategies implemented by occupational therapists in people over 65 years of age hospitalized for COVID-19 in health facilities in the Metropolitan Region of Santiago de Chile during the years 2020-2022?

# Goals

## General goal

To explore the intervention strategies applied by occupational therapists to older people hospitalized for COVID-19, in hospital facilities in the Metropolitan Region of Santiago de Chile, during the years 2020-2022.

# Specific goals

- 1. To describe the characteristics of the interventions applied by occupational therapists to older people hospitalized for COVID-19 in hospital facilities in the Metropolitan Region of Santiago de Chile during the years 2020-2022.
- To identify facilitators of the intervention strategies applied by occupational therapists to older people hospitalized for COVID-19 in hospital facilities in the Metropolitan Region of Santiago de Chile during the years 2020-2022.
- 3. To identify obstacles to the intervention strategies applied by occupational therapists to older people hospitalized for COVID-19 in hospital facilities in the Metropolitan Region of Santiago de Chile during the years 2020-2022.

# Methodology

#### Study design

The research was approached using a constructivist paradigm, a qualitative exploratory approach (Dankhe, 1989), with a descriptive scope (Galarza, 2020), since according to the authors, it provides the possibility of increasing knowledge in poorly known phenomena, in this case on the interventions carried out by occupational therapists with Older People (OP) hospitalized for COVID-19, in order to obtain information, and try to describe concepts or variables, in order to enable new research, which is more complete and has the findings of this study regarding this particular context.

#### **Participants**

The inclusion criteria that were considered for the sample were:

- Occupational therapists with at least 3 years of experience in addressing hospitalized OP.
- Who have carried out interventions with OP hospitalized for COVID-19.
- In hospital health facilities, public or private, rural or urban, in Chile.

The sample was obtained through intentional sampling with an opinion-based model, where the individuals of the sample were not chosen at random, but were selected using a strategic criterion, that is, those who were most suitable based on their knowledge of the research topic to be addressed or those who contacted the researchers

through previously interviewed individuals who met the inclusion criteria (Ruiz Olabuénaga, 2007).

The research team recruited through email and/or telephone contact with occupational therapists who met the inclusion criteria. This information was obtained through strategic contacts in the work teams of the hospital facilities that were considered for this study. Contact was established considering prior authorization from each potential participant.

**Sample characterization:** The names of the people interviewed are presented as: Participant A, Participant B, Participant C and Participant D. The profile of each one is described in Table 1 considering: gender, age, level of education, years of professional practice, length of stay in the health facility where he/she currently works, nature of the institution (public/private), specific area/unit of current performance and time in which he/she has worked in this area.

Table 1. Characterization of the people interviewed.

Gender and age	School level	Years of professiona I practice	Hospital Units where he has worked throughout his professional career	Years working at his/her current health facility	The institution where he/she currently works is	Current Working Area	Time working in his/her current area
34 year- old female	Professsional training Posgraduation, Courses	4 a 7 años	ICU, ITU, Oncology, Neurorehabilitation, Traumatology	4 to 7 years	Public	ICU, ITU	More than 2 years
52 year- old male	Professsional training Posgraduation, Courses	More than 14 years	ICU, ITU, Pediatrics, Neonatology	More than 14 years	Private	ICU ITU	More than 2 years
29 year- old female	Professsional training Posgraduation, Courses	4 to 7 years	ICU, ITU, Palliative Care	1 to 3 years	Private	ICU, ITU	1 year
29 year- old male	Professsional training Posgraduation, Courses	1 to 3 years	ICU, ITU, Neurorehabilitation, Medicine	1 to 3 years	Public	Neurorehabilita tion and Amputee Program	More than 2 years

Source: Own elaboration.

For data collection, a semi-structured interview was used. This technique allows for dialogue, where the initial questions can be modified according to the answers and the researcher can delve into new areas or content of interest (Smith et al., 2009). This interview was subjected to expert validation.

For data analysis, the content analysis technique of Elo & Kyngäs (2008) was used, through an inductive process, since the phenomenon to be investigated presents little evidence in the population, and it is also characterized by being a flexible method for data analysis. To do this, the interviews were transcribed, and the categories presented in the "Results" section were subsequently identified, which were linked to strengthen the analysis.

# **Ethical Considerations**

This research was approved by the Human Research Ethics Committee of the Faculty of Medicine of the University of Chile. Furthermore, it was based on Chilean law No. 20,120 "On scientific research on human beings, their genome, and prohibiting human cloning."

All data collection was carried out with prior authorization and expressed acceptance of participation by occupational therapists through the signing of an informed consent. It should be noted that this document expresses the voluntary nature of participation, and respects the anonymity and confidentiality of the individuals, protecting the data and privacy of those who participate. In addition, the document explicitly mentions that each participant can withdraw at any time from the research, for which there is fluid communication with the research team, and the option of signing the end of the consent granted.

#### Results

The main results of this research are described below, which have been structured based on the specific goals previously presented, considering the characteristics of the intervention strategies implemented from occupational therapy, the barriers and finally the facilitators of those.

We would like to highlight that, based on the interview script developed and the background information provided by those who participated in this study: the hospitalized older people who received occupational therapy care presented geriatric syndromes such as sarcopenia, sleep and wakefulness disorders, major and minor neurocognitive disorders such as delirium, malnutrition, constipation, mood disorders, polypharmacy, urinary infections and sensory deficits (visual and auditory). In addition, they had chronic health conditions such as high blood pressure (HBP), type II diabetes mellitus, dyslipidemia, heart disease, chronic kidney disease (CKD), intensive care unit-acquired weakness (ICUW), and frequently suffered from pneumonia associated with the presence of COVID-19.

- I. Intervention Strategies used by occupational therapists during the COVID-19 pandemic To describe the characteristics of occupational therapy interventions identified in the analysis of interviews, four fundamental characteristics were considered: 1. Considerations prior to the intervention, 2. Duration of interventions, 3. Type of assessments used, 4. Types of strategies used. These are described below.
- 1. Considerations prior to the intervention: The occupational therapists participating in the interviews, mentioned that prior to the intervention itself, it was necessary to consider safety elements, for the care of themselves, and of the OP who would benefit from their interventions. This is organized through the implementation of protocols that consider the use of personal protection elements (PPE) such as masks, anti-spears, removable bags and gloves, positioning behind the hospitalized OP, in order to avoid direct contact with secretions, cleaning of materials used in the session, which limits the time for intervention "... now obviously It was 30 minutes and we had to disinfect everything, we took the bags out [...] we only spent 30 minutes during the pandemic" (Participant B, personal communication, October 7, 2022)

- 2. Duration of interventions: Occupational therapists participating in the interviews explicitly state that the duration of the occupational therapy interventions in hospitalized OP generally vary between 15 and 60 minutes, with an average of 30 minutes per session, and the distribution of time depends on the categorization of the hospitalized OP according to their needs. It is worth noting that the occupational therapists interviewed said that there is no specific consensus on the frequency of interventions for hospitalized OP due to COVID-19, which are carried out daily or every 2-3 days, according to the possibilities and professional reasoning of each occupational therapist treating the patient in terms of tolerance, evolution, and other factors. "In general [the occupational therapy intervention] could last longer, it depends on the patient, if [the patient] is in good condition" (Participant D, personal communication, October 21, 2022). "For example, if a patient was in bad conditions, we tried to give him a little more [time]... there were much more complicated patients" (Participant A, personal communication, October 5, 2022). "It was 30 minutes and that was it: getting rid of things, evolving, disinfecting everything, reviewing exams" (Participant A, personal communication, October 5, 2022).
- 3. Type of assessments used: The occupational therapists participating in this study refer to the use of standardized and non-standardized assessments to approach OP hospitalized for COVID-19. Within the standardized assessments, guidelines are mentioned such as: Alzheimer Disease 8 (AD8), Sedation-Agitation Scale (SAS), The standardized 5 questions (S5Q), Confussion Assessment Method for the Intensive Care Unit (CAM-ICU), Confussion Assessment method (CAM), Behavioral Pain Scale (BPS) and the Functional Independence Measure (FIM), which allows evaluating the baseline and current level of functional independence of the OP hospitalized.
- In turn, within non-standardized assessments, interviews with hospitalized OP and their families will be mentioned, to understand social aspects, infrastructure of their residence, support networks, educational level, clinical history, functionality, baseline cognitive status, technical aids used, daily routine and interests in order to obtain the information necessary for interventions. "... if he interviews the family and asks their preferences, their interests and based on what we work on." (Participant C, personal communication, October 8, 2022).
- **4. Types of strategies:** Within the intervention strategies mentioned by the people participating in this study, *Polysensory stimulation, Environmental management, Positioning, Cognitive stimulation, Pharmacological management of pain, Technical aids, Remote communication, Approach to daily life activities (ADL), Sleep protocol, Non-Pharmacological management of delirium and early Mobilization.*

All participants used the strategies described in Table 2 which considers the type of strategy, description (from theoretical background and the perspective of each participant), and the most representative quote for each participant.

**Table 2.** Intervention strategies for approaching Older People hospitalized for COVID-19, used by occupational therapists participating in this study.

Type of strategy	Description	Quote
Polysensory stimulation	It is used to activate different sensory channels in a person and can be used to reintroduce them after a state of sedation. Polysensory stimulation was maintained during the pandemic, although with some limitation in the intervention materials used, as it allows for providing sensory experiences that facilitate the processing of environmental stimuli (Oh & Seo, 2003).	"I remember like working a day [] with a pair of gloves with hot water and ice water because we couldn't bring anything in." (Participant B, personal communication, October 7, 2022)
Environemental management	These intervention strategies were aimed at helping to mitigate stressors in the context of OP hospitalization and promoting temporal and spatial orientation measures, allowing for modulation of the different environmental stimuli to which the person in the critical care unit is exposed, promoting sensory and cognitive processing. (Alvarez Espinoza et al., 2021)	"We pasted photos of their families on them, we wrote down the current day, or we wrote down a name for some people, we put outside if they had any visual, hearing, or intellectual disabilities" (Participant C, personal communication, October 8, 2022).
Positioning	Through this, we seek to maintain biomechanically correct positions in hospitalized OP throughout their stay, in order to prevent muscle retraction, joint stiffness and edema caused by sustained positions such as prone, being, for example, through the creation of positioning kits (Alvarez Espinoza et al., 2021).	"[These kits] were little cushions that helped keep the patient in a comfortable position" (Participant D, personal communication, October 21, 2022)
Cognitive stimulation	Cognitive stimulation in occupational therapy focuses on activities designed to improve mental functioning, such as memory, attention, and problem-solving. (American Occupational Therapy Association, 2014) This approach seeks to maximize individuals' autonomy and quality of life by promoting adaptation to changes in cognitive abilities and fostering engagement in meaningful activities.	"If the patient cared for animals, of course, name as many animals as you have on a farm or tell me what your grandchildren's names are, photo trees of the grandchildren" (Participant B, personal communication, October 7, 2022)
Non-pharmacological pain management	Non-pharmacological treatments can be effective for pain management (Alfonso et al., 2018), working with relaxation techniques and positioning that promotes comfort during rest periods. Pain becomes more important in acute confusional syndrome, as it can be a precipitating or triggering factor.	"Give certain pain management guidelines, or how to manage certain types of pain, pain is a super important factor that could predispose to delirium" (Participant C, personal communication, October 8, 2022).
Technical aids	These tools can be used for mobilization, correction, and positioning. They allow hospitalized OP patients to improve walking, since there is a decrease in muscle mass due to immobility given the hospital setting. Technical aids also prevent deformities during the hospital period, such as prolonged immobilization and maintaining body structures of the musculoskeletal system (Alvarez Espinoza et al., 2021), as well as the correction of visual or auditory sensory deficits.	"dentures, hearing aids, and glasses" (Participant A, personal communication, October 5, 2022)
Remote communication	It is a strategy created from the needs of the pandemic to promote remote contact with the support networks of hospitalized OP. This communication was done through video calls, messaging apps, recorded videos, letters, etc. The main goals were to provide a connection with reality and emotional support to the hospitalized person, in addition to being a means of	"If we brought in any type of cell phone or [] tablet, it was always inside a bag, then disinfected everything with chlorine" (Participant B, personal

Table 2. Continued...

Type of strategy	Description	Quote
Type of strategy	farewell when physiological conditions did not allow survival. In addition, Ceballos et al. (2021, p. 57) propose that by using "multimodal remote communication between support networks and hospitalized people, the consequences of social isolation will be reduced, thus minimizing the expression of potential risk factors for the incidence of acute syndromes".  Basic ADLs promote the activation of different motor and cognitive components, such as the recovery and maintenance of strength, attention, praxis, and executive functions. Furthermore, basic	"Take them to the bathroom, let them do their ADLs, and then comes the part that is also the most significant ADL for the patient: leisure time, free time"
	ADLs have been shown to be a predictor of health, functionality, and independence (Alvarez Espinoza et al., 2021).	(Participant B, personal communication, October 7, 2022).
Approach to ADL	ADLs are developed to promote maximum independence, along with facilitating occupational performance in the hospital setting. ADLs such as minor hygiene, major hygiene (showering), personal grooming, dressing, nutrition, and functional mobility are developed, and are gradually adjusted according to the patient's progress.	"Mainly [] what we can work on in the ICU is basic ADLs: minor hygiene, eating, dressing, and more than that, we can't do." (Participant D, personal communication, October 21, 2022).
	Intervention strategies focused on promoting sleep- wake cycles through a non-pharmacological protocol aimed at promoting sleep hygiene. This protocol uses sleep hours during the night and active hours during the day. Earplugs, eye masks, and lights turned off at night, for example, are used.	"We started working on sleep protocols, that is, for example, lights off, we
Sleep protocol	of the nursing staff or the unit in which the patient is working.  Likewise, Ligña & Jiménez (2023) state that sleep is a physiological need that impacts the hospital recovery and rehabilitation process. When disrupted, sleep leads to greater exposure to	voluntarily provided earplugs to some beople, and eye masks to others" (Participant C, personal communication, October 8, 2022).
	infections, mood swings, and a longer hospital stay.  To address delirium, pharmacological and non- pharmacological strategies are used, the latter being those within the purview of the occupational	"Not having adequate control of medication doses, or giving, for example, medications that trigger delirium"
Non-pharmacological prevention and management of delirium	therapy profession. In addition, current evidence supports the use of non-pharmacological strategies, due to their easy implementation and cost-quality ratio (Restrepo Bernal et al., 2016). Previously, some of the most used strategies with OP hospitalized with COVID-19 have been described: remote communication, environmental management and non-pharmacological pain management, environmental management, which included functional positioning, polysensory and cognitive stimulation, upper extremity mobilization, training in activities of daily living, and family education (Tobar & Álvarez, 2020).	(Participant D, personal communication, October 21, 2022).
Early Mobilization	It focuses on early mobilization of hospitalized OP, using implements and/or materials available in the ward. This contributes to reducing bed rest periods and improving ventilatory parameters. It also	"Early mobilization, whether early of the upper or lower extremity, [seeks as a strategy] to get [the hospitalized elderly person] out of

Table 2. Continued...

Type of strategy	Description	Quote	
	promotes the performance of ADLs, such as supine, sitting, bedside, standing, armchair positions, and walking. For all these reasons, there is a need to prevent sequelae due to immobilization, such as myopathy in critically ill patients, by performing early active-passive mobilizations (España, 2020). Likewise, Peñate et al. (2023, p. 696) state that "Early mobilization should be considered in all patients who have been on mechanical ventilation for more than 48 hours".	bed" (Participant B, personal communication, October 7, 2022)	

Source: Own elaboration.

# II. Facilitators of the intervention during the COVID-19 pandemic:

Among the factors that facilitated occupational therapy interventions for hospitalized OP with COVID-19, the interviewed occupational therapists highlighted the interdisciplinary work within the healthcare team, the disciplinary assessment in the context of the pandemic, and the role of the family. Each is briefly described below, along with a representative quote.

1. Interdisciplinary work within the healthcare team:

Occupational therapy's work within the healthcare team contributed to establishing common goals and to carrying out interventions in conjunction with other professionals such as a senior nursing technician, kinesiology, speech therapy, and the nursing team, in order to provide support when providing interventions to hospitalized OP.

Participant C states that, "... [being] part of a team has greater advantages in terms of the <u>common goal</u>, [which is] the well-being of the hospitalized person" (Participant C, personal communication, October 8, 2022).

It is worth noting that the healthcare teams, which included the interviewed occupational therapists, played an important role in providing emotional support during the pandemic.

**2. Disciplinary assessment in the context of the pandemic**: The pandemic made it possible to highlight the importance of the role of occupational therapy and the different roles it plays in hospitalization processes, such as in the prevention of acute confusional syndrome or delirium, since, as one of the participants mentioned, "we were essential in terms of preventing delirium." (Participant B, personal communication, October 7, 2022).

According to those who participated in the study, this allowed for more functions to be assigned to the discipline in the different hospital settings in which each one worked during the pandemic.

- 3. Remote communication: Those who participated in the study highlighted the family as a facilitating factor, as they provided relevant information for the rehabilitation process, providing baseline information on users through in-person and/or telephone interviews.
- 4. Adaptation of materials and use of supplies: Occupational therapists had to adapt to working with items found inside the room, in addition to disinfecting each item brought in. To disinfect the materials used, "...one of the strategies we adopted was to

- cover [the wedges] in leatherette [so that] they would be washable" (Participant C, personal communication, October 8, 2022).
- **5. Biosafety protocols:** Multiple protocols were created to safeguard biosafety measures during the pandemic. Based on this, Participant D states that "all these COVID protocols [...] were constantly changing [...] so we had to be [...] adapting to the changes that were taking place..." (Participant D, personal communication, October 21, 2022). As seen, these protocols allowed for greater safety for both the professionals and the OP who benefited from their interventions.
- III. Intervention barriers during the COVID-19 pandemic:
- **1. Lack of supplies:** For the participants in this study, the lack of supplies was an obstacle to implementing their interventions, since the necessary PPE for optimal biosafety and mask replacement were not available within the health facilities. This is reflected in the following interviews:

"Even though we had plenty of face shields because we made them ourselves, sometimes there were no face shields" (Participant D, personal communication, October 21, 2022).

"We were lucky to wear two masks a day; at that time, we didn't even have masks, so we were terrified." (Participant B, personal communication, October 7, 2022)

- 2. Use of personal protective equipment: It is reported that the proper use of PPE had to be learned during this period, which generated difficulty in establishing a therapeutic bond with hospitalized OP. In response, Participant B stated that "...seeing ourselves with clinical scrubs, [...] we came in with [...] the protections, so in the end it was like imagine seeing an alien or an astronaut entering a room and they felt more afraid, so there was [...] a lot of work so [...] that they could trust." (Participant B, personal communication, October 7, 2022).
- **3. Decreased Human Resources:** Those who participated in this study pointed out that their work environments saw a decrease in the number of occupational therapists due to psychiatric leave, which led to a deficit in occupational therapy services. Participant B stated, "We were emotionally devastated; we all requested psychiatric leave at some point" (Participant B, personal communication, October 7, 2022).
- 4. Restricted social and physical spaces: The lack of visitors and isolation in a ward due to COVID-19 caused emotional disturbances in the OP, affecting interventions. This is reflected in the following interviews: "because their family wasn't there, [...] they felt a very strong sense of abandonment" (Participant A, personal communication, October 5, 2022). On the other hand, "social isolation was one of the biggest barriers [...] to the intervention as well, because then you're working with people who are very emotionally unstable" (Participant C, personal communication, October 8, 2022).
- **5. Workload:** Professionals were subjected to long workdays due to the increase in psychiatric leave, which meant that occupational therapists had to fill in for colleagues on sick leave. Participant D mentions that, "... of the 20 therapists, 8 were working remotely at home, and there were 10 or 12 of us taking turns every week, two weeks, to see patients, which is why we left so late [...] there was a lot of workload because

one way to safeguard everyone's health was to work in shifts" (Participant D, personal communication, October 21, 2022).

Furthermore, occupational therapists had to understand the physiological parameters of hospitalized OP, which forced them to delve into these parameters independently, areas that are not necessarily specific to their disciplinary role. "There were patients who [...] required oxygen, so [...] we tried to ensure that they did not desaturate too much during their activity." (Participant B, personal communication, October 7, 2022).

- **6. Uncertainty during the pandemic:** Occupational therapists feared becoming infected and, in turn, infecting their families, saying that "...it was about facing something extremely violent and complicated, both emotionally and spiritually, from our own fear of bringing COVID home when there were no vaccines yet." (Participant B, personal communication, October 7, 2022).
- 7. Humanization and dehumanization of the intervention due to the pandemic: As a result of the pandemic, the emotional burden on the professionals increased, as "we were the hand caressing the patient at that moment [the death of the OP]" (Participant B, personal communication, October 7, 2022). Therefore, there are different points of view from the professional perspective regarding how to address the emotional burden when working with hospitalized OP. In response to this, Participant C alludes to "never forget that the most important thing for a person who is crying and having a terrible time is to listen to them, and if they can't communicate, to accompany them and give them humanity" (Participant C, personal communication, October 8, 2022). Conversely, there are people who must find strategies to cope with the emotional burden, as mentioned by Participant B, "I think we are still experiencing some after-effects, perhaps now we tend to be a little more emotionally blocked with respect to everything we went through" (Participant B, personal communication, October 7, 2022). Regarding this, they said that these strategies interfere with the intervention, as mentioned by Participant C, "I think that is one of the biggest obstacles that caught my attention, to what extent people dehumanize their attention in order to protect themselves" (Participant C, personal communication, October 8, 2022).

#### Discussion

The main findings of this study are summarized based on the experiences of its participants.

1. Regarding the intervention strategies implemented by occupational therapists in the context of the COVID-19 pandemic, prior considerations such as the use of PPE, positioning to avoid contact with fluids, and cleaning and disinfection of materials stand out. Regarding the duration of the interventions, an average of 30 minutes is proposed, with weekly frequency varying according to professional reasoning and contextual possibilities. The assessment instruments used were standardized (AD8, SAS, S5Q, CAM-ICU, CAM, BPS, FIM) and non-standardized (interview with OP and/or family). Finally, the strategies reported by the participants included: multisensory stimulation, environmental management, positioning, cognitive stimulation, non-pharmacological pain management, technical aids, remote

communication, ADL approach, sleep protocol, non-pharmacological management of delirium, and early mobilization.

- 2. Regarding the intervention facilitators, the participants in this study highlighted interdisciplinary teamwork, which allowed for the establishment of shared goals and emotional support; appreciation of the professional role, increasing the occupational therapy duties in this context; remote communication, which allowed for the acquisition of key information for occupational therapy processes; adaptation of materials and supplies; and biosafety protocol, which increased the sense of safety by professionals and OP.
- 3. Regarding the **intervention barriers**, the most notable were the lack of supplies; the use of PPE, which limited the establishment of a therapeutic bond; the decrease in human resources due to mental health problems; the restriction of physical and social spaces (isolation); the increased workload; the feeling of uncertainty; and the humanization/dehumanization of interventions as coping strategies for this context.

According to the findings of this study based on the experience of the participating occupational therapists, one of the strategies highlighted is the development of a prone positioning kit, which promoted a biomechanically correct and comfortable position for hospitalized OP, thereby reducing the risks or complications associated with this position. This action is consistent with the findings of different authors who highlight, on the one hand, the beneficial effect of this position during intubation periods (Ehrmann et al., 2021), enhancing respiratory mechanics (Uriol-Mantilla & Vasquez-Tirado, 2020), but which could lead to complications such as facial edema or pressure ulcers (Hernández et al., 2021). Thus, this disciplinary action in the context of COVID-19 hospitalizations allowed for the use of a key position, avoiding complications or risks associated with its use.

Another strategy that stands out in the results of this study is related to the importance of remote communication, since as Cafferata & Roldan (2019) point out, the pandemic created a context of isolation, making the establishment of a communication bond with the family more difficult. Consequently, occupational therapy highlights the use of video calls, which contributed to promoting communication with support networks, providing remote emotional support and containment, and strengthening daily life and roles, which were interrupted because of hospitalization due to COVID-19. This is related to the approaches of Noone et al. (2020), who highlight that video calls help OP stay connected during the health crisis.

Non-pharmacological management of delirium is one of the strategies with evidence regarding disciplinary actions (Álvarez et al., 2012), as well as its predisposing and precipitating factors. Predisposing factors include advanced age, gender, dementia, and functional disability (Marcantonio, 2017). On the other hand, precipitating or modifiable factors include acute injuries (dehydration, infection, medications, pain, etc.) and environmental exposure (sleep deprivation, physical restraint, restriction of sensory signals, etc.) (Tobar & Álvarez, 2020). It is important to mention that COVID-19 emerges as an acute injury, which, when associated with factors such as social isolation, constitutes risk factors for the onset of Acute Confusional Disorder (Arévalo, 2021).

As previously mentioned, there are non-pharmacological strategies that allow management around the triggering factors of acute confusional syndrome (Tobar &

Álvarez, 2020), which are consistent with the results of this research, highlighting environmental management, remote communication with support networks, non-pharmacological management of precipitating factors such as pain and validation of the stories in order to avoid further disorientation. This is highlighted by the fact that early and intensive occupational therapy interventions contribute to reducing delirium rates, hospitalization days, and costs associated with the use of bed (Álvarez et al., 2012).

Among the **factors facilitating** occupational therapy intervention, the importance of interdisciplinary work was mentioned, which "refers to the study or development of activities carried out with the cooperation and exchange of different disciplines" (Salerno, 2014, p. 13). As such, during the COVID-19 pandemic, it required the interaction of different professions to conduct a comprehensive assessment of the needs of people with the disease (Pérez-Retana, 2021). Based on the research results, interdisciplinary work allowed for the establishment of joint goals, interprofessional collaboration, and emotional support among team members.

The results of this study highlight other factors that facilitate occupational therapy interventions, which are associated with flexibility and adaptability. As Morrison & Silva (2020) point out, the discipline of occupational therapy was able to respond to the new needs demanded by the COVID-19 pandemic. Along these same lines, Moreno-Chaparro et al. (2022) raise the need to reinvent therapeutic procedures, including assessment, intervention, and follow-up, making adaptations to provide care to those who need it.

Among the **barriers** identified in this study is the dehumanization of care, which arises particularly from burnout syndrome, considered a negative response to work-related stress (Arrogante & Aparicio, 2020). Regarding professionals who provide healthcare services to people infected with COVID-19, García-Iglesias et al. (2020) point out that they are those who register the worst mental health rates. This is related to the findings of this research, which showed an increase in psychiatric leaves due to the increased workload and factors associated with the limited emotional tools to cope with COVID-19 hospitalizations. This, in turn, could be explained by the approaches of Arenas et al. (2020), who mention that, in this exceptional health context, occupational therapists have applied personal emotional coping strategies in a scenario of uncertainty.

#### **Conclusions**

This research provided insight into the interventions applied by the occupational therapists participating in this study in the context of OP hospitalization due to COVID-19, also highlighting the factors that facilitated and hindered these interventions.

The interventions that stand out, focused on multisensory stimulation, early mobilization, cognitive stimulation, environmental management, sleep protocol, non-pharmacological pain management, technical aids, ADL approach, remote communication, positioning, and non-pharmacological prevention and management of acute confusional syndrome. All of these strategies were used by our discipline and had to be adapted to the working conditions in the context of a pandemic, demonstrating the flexibility, adaptability, and creativity as key professional skills of those who led them.

Related to the above, based on the experiences of the interviewed occupational therapists, it has been possible to visualize in concrete actions related to communication and positioning this capacity to adapt to the needs brought about by the pandemic, where

the implementation of remote communication protocols and interprofessional and interdisciplinary collaborative work in activities such as prone positioning stand out.

On the other hand, it is essential to highlight the concordance between the role reported by the participants in this study regarding the implications of non-pharmacological interventions for the prevention and management of delirium in older adults and the available evidence, since, as mentioned, COVID-19 and hospitalization are predisposing factors for the onset of acute delirium in older adults.

Finally, it is essential to recognize that working in the healthcare system during the pandemic brought with it multiple difficulties related to the mental health not only of occupational therapists but also of the entire healthcare team, causing in many cases a negative response to stress. In response to this, the interdisciplinary team created a support network to address the workload, promoting collaborative interventions and providing emotional support when necessary.

# **Limitations and Projections**

Considering that the COVID-19 pandemic has been a contemporary and emerging health problem, there is little disciplinary scientific evidence on the topic, which limits the scope or depth of this or other studies.

Linked to the above, it is considered interesting to project studies that delve into disciplinary contributions in the context of COVID-19, as well as to design proposals that allow us to analyze whether the particular reality reported in this research is consistent with the national and/or international reality.

In turn, given the significant impact on the mental health of healthcare professionals because of the COVID-19 pandemic, it is considered pertinent and essential to study these elements to continue promoting quality healthcare, especially within our discipline. In this way, we will continue to contribute to our community.

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Natalia Castillo-Núñez, main researcher, research design, analysis. Writing, review and editing of the full text. Felipe Navarro, methodological design, fieldwork, analysis. Writing of the text, analysis and organization of sources, review of the results. Ana Quintana, methodological design, fieldwork, analysis, discussion, conclusions. Writing of the text, analysis and organization of sources. Andrea Encina, ethical aspects of research, fieldwork, analysis, discussion, conclusions. Writing of the text, review of the results. Thais Duarte, ethical aspects of research, fieldwork, analysis, discussion, conclusions. Writing of the text, review of the results. Paulina Corona, fieldwork leader, analysis and writing of the text. Review of the full article. All authors approved the final version of the text.

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