School-Based Occupational Therapy during COVID-19 Pandemic

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Abstract

School-based occupational therapy (OT) is very important because it helps the student to be more successful and engage or participate in roles, habits, routines and occupations at school, and those related to the COVID-19 pandemic. The COVID-19 pandemic brought huge changes to the daily lives of people worldwide and affected their participation in almost all their daily activities or occupations. Occupation includes all purposeful human activity through which people can influence their health and well-being and adapt to change. Measures related to COVID-19 and lockdown (when there is one) require changes in the daily school and home routine of students who need new training (especially those in special schools) to protect their health and adapt to changes. School occupational therapists (OTs) work with teachers and the school team and have an important role among the interdisciplinary team in occupational engagement, in order to avoid the negative consequences of illness and disability and promote the positive impact of participating in occupations on a student’s health and well-being. They focus on a wide range of areas of occupational performance such as education, social participation, play, leisure, work and activities of daily living. The purpose of this short report is to highlight the usefulness of school-based OT in supporting students in everyday life, including new COVID-19 conditions. Some directions are also discussed, so as for OTs, teachers and school team to be able to help students meet the challenges during the COVID-19 pandemic in OT school-based services including self-care, hygiene, masks and facial coverings, daily school and home routine, social distancing, e-learning/technology management and telehealth in collaboration with parents, and other professionals in school.

Keywords

School-Based Occupational Therapy, COVID-19, Schools, Children with...
1. Introduction

The pandemic of COVID-19 is causing widespread disruption to daily life for people across the world and has brought huge changes in the physical and mental health and wellbeing of individuals, families and communities worldwide (Galea, Merchant, & Lurie, 2020; Shaukat, Mansoor Ali, & Razza, 2020). This new condition has affected the participation of people of all ages in almost all of their daily activities (Anderson, Mckee, & Mossialos, 2020). These changes and new measures of COVID-19 concern access to almost all activities of daily living, accessing resources, mobility, communication, social isolation, displacement, work, education with consequences on and changes in the way they use and access occupations (World Federation of Occupational Therapists, 2020). Occupations of the global population have been adversely affected because of this pandemic (Kamalakannan & Chakraborty, 2020). Occupation includes all purposeful human activity and is a fundamental mechanism by which people can influence their health and wellbeing and adapt to change (Wilcock, 2006). It provides a means for expression, collaboration, and development on individual and community levels (Rushford & Thomas, 2011). In general, research in the area of the impact of Coronavirus disease on individual occupations has not progressed a lot.

Occupational therapists (OTs) often work with people experiencing disability and/or disabling conditions to enhance their abilities and co-create opportunities for them to participate in everyday activities, either by restoring and maintaining skills preventing dysfunction or by modifying the environment to better support participation (World Federation of Occupational Therapists, 2009). Occupations related to school environments have also been adversely affected by the COVID-19 pandemic. Students in schools need to adapt to new conditions for example, avoidance of large gatherings, social distancing in everyday school life and community and use of face coverings. School OTs providing remote and in-person services as schools reopen during the era of COVID-19 present novel challenges which require flexibility and creativity from all (students, families, and professionals) (American Occupational Therapy Association, 2020a, 2020b, 2020c). School OTs working within public school settings may provide students with intervention in general and special education programs (American Occupational Therapy Association, 2014).

The new rules introduced in schools require changes in the daily school routine and new education in them to protect health. Occupations of students and families can be affected by various situations and phases during the COVID-19 pandemic: 1) If schools are open and need to follow a specific school routine, 2) If schools are closed due to lockdown or a student belongs to a vulnerable group and needs distance education and 3) If the student or a family member has been
diagnosed with COVID-19 and needs to be isolated from their social environment or even hospitalized. In all cases, training in the new routine and adjustments to several occupations are needed for the successful participation of students in the educational process, health promotion and wellbeing.

Special schools need to place extra emphasis on and apply strategies in educating students with disabilities about the necessary rules that need to be followed in the daily school routine and their smooth adaptation to new conditions. School OTs address adaptation and function within the school environment. This may mean modification of tasks or the use of specialized equipment to complete tasks. They work to assure students’ access to all parts of the school day and to educate other staff members about the different considerations required for students with disabilities. School occupational therapists collaborate with teachers and play an important role in occupational engagement among the interdisciplinary team, in order to prevent the negative consequences of disease and disability, and promote the positive impact of participation in occupations on an individual’s health and well-being (Kristensen & Petersen, 2016). Their services in school are even more necessary during COVID 19.

School-based occupational therapy helps the students to be more successful and engage or participate in roles, habits, and routines at school that have changed significantly after the advent of COVID disease. School OTs collaborate within the education team to support student success. They support a student’s ability to participate in desired daily school activities (occupations), enable both student and school teams to participate in meaningful occupations in natural settings, working creatively to design occupation-focused interventions, and finally facilitate participation by applying all necessary rules and new occupations related to the COVID pandemic. Occupations refer to the everyday activities that people do as individuals, in families and within communities, to occupy time and bring meaning and purpose to life (World Federation of Occupational Therapists, 2012) including those used for the prevention and addressing of the disease.

Occupations are based on meaningful social or cultural expectations or performance. The school-based occupations include academic, non-academic, extracurricular, and prevocational and vocational activities (Knippenberg & Hanft, 2004). Examples include literacy activities (e.g. maths, reading, writing, communicating, listening), recess, social interactions with peers on the playground, eating school lunch, self-help skills, sports, dances, etc. OT practitioners help children in schools to fulfill their role as students by supporting their academic achievement and promoting positive behaviors and participating in the academic, social, extracurricular, independent living, and vocational activities needed for student success, learning and transition (Clark, Polichino, & Jackson, 2004; Swinth, Spencer, & Jackson, 2007). They also support students with disabilities at school and prepare them for the transition to adulthood.

With the COVID-19 pandemic, new challenges have been presented in the school setting, which include delivering school-based virtual services via telem
Telehealth may be used by occupational therapy practitioners for evaluation, intervention, monitoring, supervision, and consultation delivered through information and communication technology (World Federation of Occupational Therapists, 2014). In a global or topic lockdown schools are closed and students receive online learning and must be in home isolation. During the pandemic period, distance learning, home isolation due to the lockdown, lack of socialization, changes in daily routines, and lack of services negatively affected the emotional states of children with disabilities, contributing to parental overload and stress (Hyseni Duraku & Nagavci, 2020). With their focus on facilitating access to and participation in school-based activities and routines, including e-learning and telehealth, OTs continue to play critical roles in helping students in general and through special education programs achieve positive learning outcomes and prepare for further education, employment, and independent living according to the new conditions and changes in everyday school and home life.

School OTs work with children and youth and their parents/caregivers, educators, team members and district and agency staff to facilitate children’s and youth’s ability to participate in their occupations, and activities of daily living that are purposeful and meaningful to the person (Clark, Polichino, & Jackson, 2011) and to adapt to new occupations and this new situation during the pandemic COVID-19. They focus on a wide range of occupational performance areas (education, social participation, play, leisure, work, activities of daily living), and provide services in schools, at home and in early intervention settings as the primary work environments for occupational therapists (Jackson, 2007). Children are unable to play with their peers in the school grounds or study at school during a lockdown or when they are in quarantine. When students are at school during all school programs, they need to keep their distance, thus affecting all of the above areas and especially social participation.

Occupational therapy’s expertise includes activity and environmental analysis and modification with a goal of reducing the barriers to participation (American Occupational Therapy Association, 2017). School OTs evaluate and intervene with people across the life span when physical, adaptive, cognitive, behavioral, social and mental health concerns compromise occupational engagement. In occupational therapy, health and well-being are considered to be strongly influenced by choice, control, and the ability to engage in activities of daily living. OT services are provided for habilitation, rehabilitation and promotion of health and wellness for children with disability and non-disability related needs. These services include acquisition and preservation of occupational identity for those who have or are at risk for developing an illness, disease, disorder, condition, impairment, disability, activity, limitation or participation restriction (Clark, Polichino, & Jackson, 2011).

School OTs are experts who understand and study the different ways of measuring participation in occupation in order to develop innovative strategies and therapeutic interventions to facilitate a child’s engagement in occupations, so
they can help with the pragmatic strategies for preventing transmission (physical distancing, use of mask, hand hygiene, personal protective equipment usage and decontamination), despite engaging in occupations, safely and effectively (Kamalakannan & Chakraborty, 2020). They can scientifically analyze occupations and help formulate strategies for adapting and retraining new occupations and preventing the consequences of occupational justice, occupational deprivation and equality. These guidelines provide information about occupational therapy practice in schools, including the influences of COVID-19 pandemic and OTs practitioner school-based roles related to these factors.

The scope of occupational therapy evaluation and intervention in the school setting includes areas that affect the child’s learning and participation in the context of educational activities, routines, and environments (Clark, Polichino, & Jackson, 2011). Illness or developmental challenges can impact students’ ability to participate in occupations, so school OTs work with children to explore whether making a change to the person, the occupation or the environment might enable occupational participation, and the same applies to training in new occupations and routines related with COVID-19. Making a change to the person might involve learning new skills or ways of doing things. Making a change to the occupation might involve doing the same occupation in a different way or finding a substitute occupation (e.g. a face shield instead of a protective mask), and changing the environment might involve bringing in new objects or rearranging objects within the space. Decisions and interventions should continue to be individualized and collaborative to meet the unique needs of students, families, teams and schools inside the space (e.g. signs on the floor or in the space for the distance that needs to be maintained) (Baum, Christiansen, & Bass, 2015).

2. OT School-Based Services

School OTs are guided by the Occupational Therapy Practice Framework: Domain and Process (4th ed.; American Occupational Therapy Association, 2020d) and Standards of Practice for Occupational Therapy (American Occupational Therapy Association, 2015). The framework promotes occupation-based, client-centered, contextual, and evidence-based services and refers to the activities (occupations) needed for being a student and participating in the learning environment. School OTs provide services to students and families and educational staff in preschool and school settings to support engagement and participation in daily living activities—self-care, instrumental activities of daily living, education, play, leisure, rest and sleep, and social participation (American Occupational Therapy Association, 2017), maintaining the measures about the prevention of COVID-19 disease in order to safeguard their health. They help students incorporate daily living skills and jobs in classroom roles and routines, such as cleaning and organizing materials or being the classroom leader for the day. Some directions for OTs, teachers and school team to help students’ addressing of challenges during the COVID-19 pandemic in OT school-based services are discussed below:
**Self-care, hygiene**

Activities of daily living (ADLs) or self-care include some of the most important occupations children learn as they mature and encompass learning how to take care of one’s body (e.g. washing hands, personal hygiene and grooming, eating and feeding, dressing, toilet hygiene, bowel and bladder management, bathing and showering, and functional mobility). Instrumental activities of daily living (IADLs) include activities to support daily life within the home and community that often require more complex interactions than those used in ADLs. Children and youth develop IADLs when they reach adolescence, and thus begin to participate in the community with more autonomy. These activities include care of others, care of pets, use of a communication device, community mobility, financial management, health management and maintenance, home management, meal preparation and clean-up, shopping, safety procedures and emergency responses (American Occupational Therapy Association, 2017).

School OTs’ understanding of occupational needs and performance, coupled with their skills in activity analysis and focus on achieving student goals, strongly support the use of diverse types of assistive technology within models of best practice (American Occupational Therapy Association, 2010). Frequent and proper hand washing and use of antiseptic, use of a mask and social distance are among the basic recommendations of specialists for the prevention of the spread of COVID-19 and these are new challenges for students with disabilities and sensory disorders. In most countries the above measures have been imposed as mandatory in order to reduce COVID-19 and many students with disabilities need special training in those where they can be applied. Occupational therapists are experts in ADLs and IADLs task analysis and they use modifications, adjustments and special approaches and techniques. Examples including skills about ADLs, IADLs and hygiene that can be used are social stories, cards with steps for hand washing, keeping hands away from face, avoiding touching others and their materials and keeping classroom areas clean.

**Masks and Facial Coverings**

Wearing masks and facial coverings prevent the transmission of COVID-19. As regards the use of the mask, the school OT, after evaluating all relevant factors in person (health, preference and related skills of the student), can suggest the appropriate face coverings. The multiple environments encountered (e.g., bus, pick up and drop off location), and the array of tasks and occupations that need to be performed while wearing a mask (e.g., eating and drinking, completing class assignments, talking with friends, participating in recess) should be considered (American Occupational Therapy Association, 2020b). When it comes for students who have sensory sensitivity for example, they may suggest a mask with a different texture e.g. (a cloth mask or a cotton cloth mask) and soft fabric liners to reduce any unpleasant sensations, using sensory desensitizing techniques for children with sensory defensiveness.

Using visual material, showing the steps of correct and incorrect use, and teaching students how to take care of masks can be useful. The masks chosen
could have different designs so as to be more attractive, and there can be some breaks in their use or superhero and game role playing. In addition, the school OT can suggest alternative ways for students who have difficulty in using or cannot use the mask (e.g. a face shield with glasses frame, instead of a face shield for the head). Some modifications may include face masks with windows for deaf students to improve communication; holding the mask with a couple of buttons which are added on his or her favorite hat, which allow them to put the mask straps around the buttons instead of their ears, and masks that Velcro or tie at the back of the head (American Occupational Therapy Association, 2020b).

**Routine**

For many children, their usual routines may be seriously disrupted by extreme social distancing rules and school shut-down. It’s important that a routine be maintained as usual as possible or that a routine including a clean-up routine be created, which can become the ‘new normal’ for children (especially for those with autism spectrum disorder), both at school and at home during this period. It is useful to maintain a similar daily routine, although the location of activities may change. If students are at home because of a lockdown, they need to maintain the same sort of pattern as their usual school day, doing school tasks during usual class times, taking meal and play breaks at their usual times and also get up and go to bed at their usual times, including sleep habits. The creation of a visual schedule for all routines (school and home) will be useful for “when”, “how” and “where” for movement, hand washing socialization, breaks, transitions etc. (American Occupational Therapy Association, 2017, 2020a, 2020b; Bazyk & Case-Smith, 2010).

**Social distancing**

Social participation is very important for the students at school and social distancing is most difficult especially for those with disabilities. Some children may find social distance comfortable but for most of them it is very difficult to follow this rule. It is important to explain social distancing to students through videos, games, or appropriate activities to increase understanding of distance. Signs on the floor or space, socially distanced games, clear rules on social distancing, configuration of the classroom (desks and chairs) and other school environments and virtual social participation such as calling a friend will be useful to address this and provide opportunities for students to practice measuring distance. Especially for students with developmental or cognitive disabilities it is useful to use visual markers (e.g., chalk, tape, cones) to help them maintain appropriate spacing.

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**E-learning/technology management**

The impact of the COVID-19 pandemic has significantly affected the education of children worldwide and online learning quickly became the default solution because of school closures or related disease conditions. Distance education in children with disabilities is difficult and requires several adjustments, as well as taking into account the different rate of learning, memory and retention by their peers without disabilities (Narvekar, 2020). School OTs together with the school team can contribute to the education of the students in online learning and support the appropriate assistive technology for them. They teach students technology skills, such as typing, using a mouse, navigating software, and taking care of equipment. They can address and suggest accessibility challenges (e.g., universal design for learning, video captions and audio descriptions, color choice and contrast).

It is important to have a suitable seat and alternate the child’s positions with frequent breaks. If necessary, use a footstool to support his or her feet. Breaks are recommended to avoid straining the eyes every 20 minutes. Poor posture and eye strain can occur when using a small screen, so a TV screen can be used for easier viewing. Using a notebook computer or tablet all day can be hard on the hands and wrists, so connecting to an external keyboard and mouse if available is suggested, so as to minimize any discomfort (American Occupational Therapy Association, 2020d). Especially in the domain of social participation, it is important to support the students in their technology management skills in order to enable e-communication with friends, such as using the chat or sending email and other similar activities.

**Telehealth/tele-occupational therapy**

Tele-occupational therapy includes evaluation, intervention, monitoring, supervision, and consultation delivered through information and communication technology (World Federation of Occupational Therapists, 2014; American Occupational Therapy Association, 2013). In a lockdown where schools are closed or where a student is ill or at high risk of getting sick and is at home, telehealth is essential. During tele-occupational therapy it is necessary to continue providing the student with the evaluation, tasks and intervention that were offered at school. In tele-occupational therapy both synchronous, real-time (e.g., videoconferencing) and asynchronous telehealth applications (e.g., video, photographs, recorded performance data from gaming or health technologies, e-mail, etc.) are used (American Occupational Therapy Association, 2013; Jacobs, Cason, & McCullough, 2015). Some students may need to have a caregiver or e-helper involved.
Videos can be used to observe the student in the home environment regarding the evaluation of activities of daily living. Screen sharing to support self-care skills and demonstrate proper hand washing can be used. In consultation with the caregivers they can make homemade plasticine and use some objects in the house, (e.g. clothespins etc.) to build and improve fine motor skills and work on motoric separation of the two sides of the hand. Hand manipulation activities are a great way to enhance the fine motor skills required to use in functional tasks such as handling clothing fasteners, using a pencil when writing, counting individual fingers, handling objects such as coins or beads, shoe tying, and other occupations. Especially for the period COVID-19, students are supported to understand when and where they need to wear masks, and caregivers are supported to help them keep their distance and maintain hygiene. All activities which took place in school based occupational therapy interventions with a student can also be performed in tele-occupational therapy with adaptations, using real-time or asynchronous telehealth. Telehealth is not for all students. Some of them cannot do things remotely and in this case we can work in collaboration with parents and caregivers.

**Parents/ Caregivers**

Parents and caregivers must be active participants at each stage of the intervention. Working with the parents includes collaboration in developing an individual educational plan for their child, guidance, consultation, recommendations for home activities and adapted activities related to the prevention of COVID-19 (e.g. hygiene, self-care) and a reciprocal exchange of information.

**3. Conclusion**

The school OTs collaborating with teachers and school staff by providing training and consultation relevant to COVID-19 for whole school or whole class approaches, is an important factor not only for the success of students but also for the school community. Occupational therapists can offer advice on reasonable adjustments, support the school’s handwriting policy development and suggest environmental adaptations to support the school routine related to COVID-19.

**Conflicts of Interest**

The authors declare no conflicts of interest regarding the publication of this paper.

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