

Presentation Transcript

Topic: Mental health in individuals with neurodevelopmental disorder: importance of participation in sports and physical activities

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Jie Yi: Hi everyone, my name is Jie Yi

Valery: and my name is Valery. Today, both of us will be sharing about mental health in individuals with neurodevelopmental disorders. More importantly, we will explore whether there is a role for physical activities and sports in helping this population.

Valery: In IMH, Both Jie Yi and I are in the Department of Developmental Psychiatry which provide services for adults and children separately. The Adult Neurodevelopmental Services (ANDS) serves individuals with NDD between the ages of 19-64 years old. The team provides assessment and treatment of the co-occurring psychiatric disorder and problem behaviours as well. For children 18 years and below, there are respective specialized outpatient clinic services to address the needs of the different of neurodevelopmental and psychiatric condition.

Valery: Neurodevelopmental disorders (NDD for short) are disabilities associated primarily with the functioning of the neurological system and brain. It includes conditions like Attention Deficit/ Hyperactivity Disorder, Autism Spectrum Disorder, Learning Disabilities, Conduct Disorders, Cerebral Palsy and Impairments in hearing and vision. For the rest of the presentation, we will be using the term NDD, and it refers to Neurodevelopmental disorders.

Valery: In a study conducted for outpatient adult cases seen in IMH between 2015-2016 in the NDD department, it was found that the majority of the new cases were diagnosed Intellectual disability, making up to 52.9%, followed by those with Autism Spectrum Disorder 30.2%. And finally, those with Intellectual Disability and Autism Spectrum Disorder (ASD) comprising in the remaining 16.9%.

Valery: It is common for individuals with NDD to have higher rates of physical and psychiatric comorbidities such as depression, anxiety disorders and psychotic disorders. Often, this population have different presentations of mental health issues, as compared to the general psychiatric population. For example, instead of verbally expressing their anxieties or seeking the help they require, they can manifest in challenging behaviors. ‘

Valery: These behaviours, no matter how challenging, do serve a purpose for the individual. It could be a way of sensory stimulation, an attempt to get attention from those around them or simply to avoid demands. Sometimes, these behaviours are also a result of difficulties with emotional regulation and limited social interaction skills.

Valery: We understand that skills can impact one's mental health and behaviours. In IMH, our patients with general psychiatric conditions, like depression and schizophrenia, may experience decreased cognitive and perceptual impairment resulting from their illness, and this can lead to inappropriate behaviours. Similarly, for our patients with NDD, due to their poor language and communication skills, along with poor sensory motor skills, they may also display other forms of inappropriate behaviours. We will now look at the slide that talks about the types of different challenging behaviours.

Valery: Based on the existing research on this population, we understand that these are some examples of challenging behaviors which we have categorized into the following 4 columns for this presentation. The first category is Aggression and Destruction, which include behaviors displayed towards people or objects around the individuals. Such examples would include, biting, scratching, pinching, hitting, pushing, kicking, property destruction and even yelling and screaming. The 2nd category is self-injurious behaviors inflicted on oneself. Examples would be head banging, biting of one's hand, pinching self, or poking self in the eye. The next category is Stereotypical Behaviors, which can include, repetitive movements or sounds produced. So, this includes movements like, rocking jumping, spinning, running back and forth. The final category is called Disruptive Behavior, which include behaviors like removal of one's clothing, inappropriate sexual behaviors, smearing feces on the wall or defecating in public on purpose.

Valery: As occupational therapist we believe it's important to understand how challenging behaviors disrupt one's daily life. It's important to look at how often the behavior occurs; how intense each episode is and how long the behavior would last each time it happens. Before we discuss how we can address these behaviors, we will do a short activity to understand more about how we regulate ourselves throughout the day with different coping strategies when we are feeling tired or emotional distress.

Valery: In the upcoming slides, there will be a question at the top with two pictures shown below it, you can choose the picture on the left or right that best describe your answer. If either of the pictures do not apply to you, you can think about an answer and keep a mental note of it.

Valery: The first question is, what keeps you alert/awake through the day? Would it be the picture on the left, which shows us different types of soft drinks? This can include your favourite bubble tea drink as well. On the right-hand side, it is a picture of caffeinated drinks, such as coffee and tea. So, which picture best describes what keeps you alert through the day? What happens when you don't have it? How will that make you feel?

Valery: Next question; what do you do when you are dozing off in a lecture or presentation? Would you chew or suck on some sweets, as seen in the picture on the left? This includes chewing gum, lollipop, sour sweets and even mint. Or would it be the picture right, showing different types of stretches one can do in standing. If neither of these applies to you, think about what is helping you keep awake right now in this presentation.

Valery: Finally, which would you prefer? Listening and dancing to music, as seen on the left picture? Or engaging in other forms of physical activities like skipping, jogging and doing weighted exercises. Perhaps, you find yourself enjoying both and that is fine as well!

Valery: To conclude this activity, here are 2 key points we will like to share with you. The first, is that the activities and strategies you choose, provide you with sensory inputs that help you regulate when you are emotionally distressed or tired. Secondly, we all have different sensory needs and preferences, and this in turn influences the choices we make for the coping activities and activities we do in our lives.

Valery: As we all know by now, exercise brings about plenty of benefits to one's health. It can actually do a lot for individuals with Neurodevelopmental Disorders and other psychiatric conditions. Engaging in exercises, enhances their wellbeing through the release of endorphins to make them feel good, as well as the release of dopamine to help with mood regulation. Participating in exercises, is a great platform to regulate their sensory systems as the movements provide feedback for their body, helping to be more regulated. By doing so, they become calmer, and we do observe a reduction of challenging behaviours. Such as, aggression, self-injurious and self-stimulatory behaviours. Through engaging in sports, they improve their motor skills such as coordination and balance, it also improves their endurance as they work on their stamina, which is important in helping them perform daily activities and engage in leisure and work pursuits. Participating in sports also allows opportunity to gain hard skills, which increases their confidence and sense of self in return.

I will now pass the time to Jie Yi, who will share the second part of this presentation.

Jie Yi: Thanks Valery. So, now that we have covered why sports and physical exercises are important for this population, let us better understand some of the barriers that can affect their participation in these meaningful activities. At the level of the individuals with Neurodevelopmental Disorders and mental health conditions, they may be presented with physical limitations such as having poor motor skills, which can include having poor coordination and balance. They may also have sensory issues, such as hypersensitivity to sounds and being overwhelmed in a crowded place, they may have cognitive deficits such as difficulty to plan and problem solve. Social communication can be difficult for them, such as understanding complex instructions of learning the rules of a sport or expressing themselves to form peer relationships. They may also have behavioural issues, such as displaying aggression when task demands are too high. At the family and caregivers' level, many of them might face the lack of time and energy to bring out their child for their sports activities, and many of them experience burn out. Additionally, they may not connect to a community of other caregivers to share resources on the type of community programmes available to their child. Some of them might also have some fear of what the public perceive of their child when they are outside. As well as, having the previous negative experiences of unsuccessful tries of engaging their child in sports. At the community level, there is insufficient available programmes and trained staff to conduct sports-based activities for this population. Given the higher needs of this population, there is a need more manpower and hence the financial costs to run these programmes.

Jie Yi: In our work in IMH, we hope to address these barriers to enable participation of sports in individuals with Neurodevelopmental Disorders and Mental Health issues. After a thorough assessment on our patients, we provide individual and group-based interventions to improve motor and social skills. We also work closely with caregivers and community partners, through programme planning and trainings. We also advocate for our patients to explore the use of community spaces such as National parks, ActiveSG swimming pools and gym, fitness corners, and community centres that is available to the public. I will be giving more examples of how we have liaised with community partners later.

Jie Yi: Moving on, it is important for us to understand how participation in sports by this population can look like as they will differ from our usual understanding of sports.

Studies have shown that individuals with Neurodevelopmental Disorders, can do better with more supervision and support. And this can include, having physical facilitation to guide their movements while they gain mastery. As they learn better by repeating tasks to learn a new skill, it is good for them to have supervision as well. Many of them thrive better in individual than group sports such, as swimming and cycling. However, depending on severity of their disorder, some can participate in group sports with supervision provided. It is also important to provide a 'just right challenge', when it comes to sports, which means task should be difficult enough to provide a challenge, but not too difficult that the person gives up in frustration. Hence, our role as occupational therapists, we will often have to modify the task demands and ensure that the activity is achievable and meaningful to them.

Jie Yi: It is also important to incorporate physical activities into their daily routine.

In an example of an admission stay in a hospital, it can often cause disruptions to daily routines, due to the nature of staying in a restricted environment. It can lead to health complications such as obesity, unwanted weight loss due to deconditioning, or developing unwanted behaviors, such as increase self-talking or self-stimulatory behaviors.

Jie Yi: This slide hence shows, an example of a schedule in our adult Neurodevelopmental Disorder Ward, and I have highlighted in yellow some of the physical activities, such as, morning exercises or outdoor walking group, as well as sports group that can be run across the day. We also try to incorporate exercises in music and movement group, as our patients dance along to music.

Jie Yi: We will now move on to take a look at some of the more mainstream sports and leisure activities, that we have carried out with our patients from IMH. Just a gentle reminder not to take any photos for this segment of our presentation for confidential purposes. The picture on the left, shows some of our patients from the outpatient setting participating in kayaking at Macritchie Reservoir. The higher functioning individuals were given single kayaks, while the lower functioning individuals were paired up with a volunteer in a two-men kayak. The picture on the right, shows a patient playing badminton in the Multi-purpose Hall in IMH. Both of these activities require great coordination and balance. Something in which, we often have to work on with our patients. Besides the Multi-purpose Hall, IMH has other facilities such as, the basketball court, running track around the perimeter of the hospital, gym, fitness corner and a playground. The hospital believes in regular participation in physical activities to improve their

INCLUSIVE SPORT CONFERENCE

mental health. Within the in-patient wards, occupational therapists also focus on exercises to improve the function of the general psychiatric patients. They run groups and utilize equipment in the ward such as, the treadmill and other gym equipment to improve their physical endurance and to regulate their emotions. This in turn contributes to their mental health being and their recovery process.

Jie Yi: For some of our lower functioning patients, we engaged them in modified sports. We matched their abilities to the types of activities, while incorporating a just right challenge approach with supervision provided. In 2019, we liaised with HomeTeam NS for an outdoor event for our patients staying in IMH. The goal was to promote outdoor activities and to reduce stigma on mental health. Another objective was to improve community partners' capabilities in managing our patients. Parents were involved in this event to improve their confidence in managing their child in physical outdoor activities. Some of the activities that were conducted, included relay games and modified obstacle course, as shown in the picture on the left, and group skipping rope activity as shown on the right. These activities were helpful to work on our patients' coordination and ability to cope in a multisensory environment.

Jie Yi: During our collaboration with HomeTeam NS, we were also able to use their on-site facilities to expose our patients to high low and high element activities.

The picture on the left shows a patient crossing a suspended net with the instructor guiding him from the front. The pictures in the middle and on the right are low element activities, where they had to maintain their balance while walking across a log and a tight rope. Parents who attended gave positive feedback at the end of the event. Some of them shared that they were surprised and encouraged to see how their child were regulated during the activities. Community partners also shared that they felt more confident in managing them by the end of the day.

Jie Yi: In this slide, it shows a few pictures our patients participating in a nature walk, in Labrador park, with their parents during a parent child bonding camp. We have been running similar programmes for the past 8 years in IMH. And some of the places we have visited includes, Pasir Ris Park, Sentosa and Bukit Timah Hill. By participating in nature walks, it is a great way to improve physical endurance and frustration tolerance, as they had to walk on different terrains and experience hot weather. It is also a great opportunity for parents to learn how to engage their child in public spaces and facilitate integration into the community.

Jie Yi: We will now watch a one-minute video, that features a sport coach and parents engaging their two children with Neurodevelopmental Disorders in outdoor activities.

So, yesterday when we were hiking, Sophia was like, this is hard, and I'm tired, I was like, no, you can do this. Makes a big difference for their mindsets, make them realise they are capable of what others are capable of. Just because Joaqin and Sophia have Down's Syndrome, it does not mean that we can't do what other families do. Mental disability is often put in a special category, but out here, they are treated the same as everyone else. Wyoming's open spaces is a parent's dream, just untouched landscape. Here, we can just let them go, let them roam, let them run! There's always an unknown fear factor on going higher that scared people. When you are allowing someone like Sophia and Joaqin to go higher, it just raises their own self confidence level. To see a challenge in front of them and overcome that, that creates a self confidence that will spread throughout their lives.

Jie Yi: From this short clip, we have seen how two children with Neurodevelopmental Disorders were able to participate and engage in outdoor activities, such as, trekking and rock climbing, as well as how they overcame the challenges and gain confidence from the process. Although, we do not have such landscapes and nature in Singapore. We still can fully utilize the available community resources such as, our public pools, gyms, nature parks, stadiums to engage individuals with Neurodevelopmental Disorders and mental health conditions in active leisure activities.

Jie Yi: In conclusion, we have identified that there are various benefits of participating in sports and physical activities, for individuals with Neurodevelopmental Disorders and mental health issues. Through sports, these individuals can gain motor and social skills, which helps in their emotional regulation and hence reduce challenging behaviors.

With support from the environment and modifying activities to provide adequate challenge, individuals with NDD has the potential to learn new sports and gain self-confidence. Lastly, the process of community integration is ongoing process and efforts to continue advocating for this population is key. Therefore, we hope to continue working closely with our community partners, such as SportCares, to better support and integrate individuals with Neurodevelopmental Disorders and Mental Health issues into community spaces.

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Jie Yi: So, here are some of our references. And, we have come to the end of our presentation.

Jie Yi: Thank you.