

A 6-Week Virtual Exercise/Dance Program Impacts Fitness Levels for Adults With Intellectual Disabilities:

A DNP Project

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Abstract

Adults with intellectual disabilities (ID) experience age-related diseases, such as diabetes, hypertension, cardiovascular disease, and obesity much earlier than their typical peers. Therefore, health promotion is essential in this population.¹ This population tends to live sedentary lives; exercise needs to be a focus. Exercise positively impacts survival rates for those with ID.² Motivation and support are vital factors to successfully incorporate exercise into their lives. Prevalent barriers are a lack of access to health promotion programs, support, and transportation. Creating virtual programming with exercise and support can fill this gap. The implementation of a 6-week virtual exercise/dance program with music as a motivator Doctor of Nursing Practice (DNP) project, enabled adults with ID to participate in physical activity resulting in improved cardiovascular and muscular fitness using Standing Long Jump (SLJ) and 6 Minute Walk Test (6MWT) as measures. No improvement was noted in Body Mass Index measurements.

Background

Intellectual disability (ID), according to the American Association on Intellectual and Developmental Disabilities, is defined as a disability that originates before the age of 18, and has significant limitations in both “intellectual functioning and adaptive behavior which covers many everyday social and practical skills” (p. 422).¹ Further, there are approximately 6.5 million people in the United States with ID, with ID affecting 0.5% of adults in high-income countries.^{1,2} Adults with ID experience age-related diseases earlier in life, and higher mortality rates from chronic, non-communicable diseases, such as diabetes, hypertension, cardiovascular disease, and obesity, than the general population.³ This is attributed, in part, to sedentary lifestyles.^{3,4} Obesity alone is two to three times more prevalent in individuals with ID due to obesogenic medication and sedentary lifestyles.⁵ Health care costs associated with a lack of physical activity are \$117 billion annually.⁶ Multimorbidity, or having two or more chronic conditions in addition to ID, can significantly impact individuals with ID, putting those who are physically inactive at greater risk.⁷ Some factors related to sedentary lifestyles for those with ID include lack of motivation, acceptance of a sedentary lifestyle, lack of caregiver support, barriers to transportation, and limited access to appropriate health promotion programs.^{1,8}

Health promotion applies to all people, including those with disabilities.⁹ Further, health promotion maintains and enhances function and considers the whole person as its foundation. One role of the health care provider is health promoter. This role encourages health-promoting activities, such as increasing physical activity, which may positively impact the fitness and obesity of the person with ID.¹ According to the CDC (2021) only 44% of adults with disabilities received recommendations for physical activity during their doctor’s visit.¹⁰ However, if doctors

do recommend physical activity to adults with disabilities, they are 82% more likely to comply than if the doctor does not give recommendations. Additionally, the CDC (2021) recognizes five steps to address physical activity with adults with disabilities.¹⁰ These steps include: remembering everyone should follow the Physical Activity Guidelines; inquiring about the individual's physical activity; talking about barriers, giving options for physical activity, and referring them to available resources and programs. Further, the CDC (2021) gives examples of programming across the country that targets this population to improve their weight and physical activity.¹⁰ The Alabama Hospital Association, Blue Cross Blue Shield Alabama, and the National Center on Health, Physical Activity, and Disability collaborated on a 10-week campaign promoting healthy weight and physical activity. The Michigan Department of Community Health partnered with the Michigan Arthritis Program to increase access with their *EnhanceFitness* program, which focuses on adults with developmental, cognitive, and mobility disabilities. The South Carolina Research Foundation partners with the South Carolina Department of Disabilities and Special Needs and Able-SC to promote healthy living through its *Steps to Your Health* program.

Person-centered care can be provided when the provider has time to get to know and understand the individual with ID.¹⁰ Providers should learn the individual's likes, dislikes, and ideas they want for their life. Therefore, by equipping providers with the knowledge to effectively communicate and care for these individuals, fear and frustration regarding health plans can be prevented, and a more positive attitude will prevail to encourage health promotion activities. As a result, this population may experience an enhanced quality of life through physical activity.^{1,11} Further, community health care providers can significantly reduce the health disparities adults with ID face by helping them overcome barriers and access health care programs. Since there is a lack of accessible programming for individuals with ID, states need to recognize the need for creating physical activity opportunities. Through collaboration, entities that understand the needs of this population can develop quality programs to reach more people with disabilities.

Health promotion with support is vital for people with intellectual disabilities (ID). This DNP project aimed to improve BMI, muscular fitness, and cardiovascular fitness in adults with ID using exercise and dance with music as a motivator. Through consistent participation, weight loss could have also been a benefit for some, in addition to developing the healthy habit of incorporating exercise into daily life.

Theoretical Framework

This DNP project consisted of a virtual exercise/dance program with music as a motivator. Participants were adults with ID and attended two sessions per week over the course of six weeks. Both cardiovascular fitness and muscular fitness were addressed using Bollywood dancing and yoga, respectively. Nola Pender's Health Promotion Model has guided the project. This model supported the idea that behavior change will happen if there is both a positive personal value and a desired outcome for change.⁹

This model focuses on wellness, self-efficacy, and that the individual's characteristics and experiences can impact their actions.¹² Further, if the individual perceives benefits or barriers to an action, this would influence their ability to change behavior. Additionally, interpersonal influences such as social support and role modeling can impact a person's desire to change. Likewise, situational influences can directly influence behavior through the individual's perception of the options available and the aesthetic features of the environment. Further,

competing demands and competing preferences also influence the behaviors of the individual. The behavioral outcome is the endpoint in which there is a positive attitude toward the health-promoting behavior, and there is a commitment to incorporate this behavior into one's lifestyle.¹²

This project assisted the participants to begin to take ownership of their health through their commitment to physical activity. First, by holding these exercise sessions virtually, the barrier of transportation was removed. For this population, not being able to physically get to programming is a significant issue, as is the lack of appropriate health promotion programs in the community.¹ By holding sessions virtually, a new option for engagement was created and was tailored to the needs of individuals with ID. The program came to them, and this eliminated the barrier of not being able to attend an exercise program.

Additionally, incorporating yoga and Bollywood dancing to upbeat music influenced the environment into one that was fun and engaging. It is important to identify the type of activity that would motivate this population to yield greater adherence and acceptance of physical activity.³ Dancing is a positive stimulus that increases physical activity in people with ID.¹³ This exercise/dance program would teach foundational skills in the first week. With this foundation, each week's activities were to incorporate familiar exercises and dance steps, and then challenged the participants by introducing new steps as the program progressed. Therefore, varying the program diminishes boredom from doing the same repetitious routine. By monitoring the sessions and giving motivational words and phrases directed at the group and individuals, confidence levels could increase, as could their perception of self-efficacy.

Supporting a healthy lifestyle through physical activity is an important aspect of health promotion, and involving supporters is critical for the ID population.¹ Further, involving caregivers, such as parents, in reminding and encouraging the individuals to join the sessions, as well as playing the role of coach is important in motivating these individuals to participate in health-promoting behaviors.

Physical Activity

One key to improved health outcomes is to increase the amount of physical activity for this population. The U.S. Department of Health and Human Services (2018) published its guidelines for physical activities for adults.¹⁴ These guidelines include at least 150 minutes of moderate-intensity or 75 minutes of vigorous-intensity aerobic physical activity or an equivalent combination of these two intensities ideally spread over a week. Further, muscle-strengthening activities of moderate or greater intensity involving all major muscle groups are also recommended on two or more days per week. Additionally, for adults with disabilities, the same guidelines are in place if the individuals are able. When they cannot meet the guidelines, they should avoid inactivity and engage in physical activity according to their abilities.

Studies support that people with ID can, and should, engage in physical activity. Those with Down syndrome were able to participate successfully in exercise programs, which included interval and aerobic training.¹⁵ Another trial compared a 12- to 16-month diet and physical activity health promotion intervention with a wait-list control group with 130 participants.¹⁶ There was a positive intervention effect on physical activity. Additionally, carers were involved, and their support likely contributed to significantly improved physical activity levels after the program. In a feasibility study, significant improvement in cardiovascular and muscle fitness, and weight loss, had been documented following participation in programs that incorporated

combined training programs that included aerobic and muscle endurance training, particularly Zumba and strength training to music.³ Motivation to complete a challenging task was an important factor, with physical activities being more fun when using music and games to make the activity stimulating and enjoyable.

Barriers

Barriers to adequate physical activity are identified as a lack of adapted exercise courses and programs of inclusion, transportation, and independence difficulties.¹⁷ Families identified challenges in finding expert instructors and coaches for adapted physical activity, finding gyms that were available to these young people, and the quality of sports activities. Further, paid caregivers and families did not agree on who should be responsible for managing physical activity for those with ID, therefore inactive lifestyles continued.⁸ The paid caregivers thought the family should be responsible to manage exercise and in contrast, the families thought the paid caregiver should do it.

Another significant barrier during the time of this project was the COVID-19 pandemic. The pandemic impacted many populations, including those with disabilities. Once recreation and fitness facilities closed, negative side effects emerged regarding general health, physical activity, social isolation, and overall lifestyle.¹⁸ As many options for in-person physical activity were closed during this project, alternate programming needed to be considered. This led to using virtual technology to hold the exercise program sessions.

Materials and Methods

From the challenges noted in increasing the activity levels and decreasing health risks of those with ID, the DNP Project Leader wanted to evaluate whether the implementation of an exercise program compared to no exercise program affect physical fitness of those with ID in a six-week period. This DNP project implemented a virtual six-week exercise/dance program, with music as a motivator, for adults with ID. The program consisted of two one-hour sessions per week. These sessions included yoga for strength training and Bollywood dancing for aerobic exercise. The aim was to compare cardiovascular and muscular fitness measurements before and after the program to determine if an exercise/dance program was effective in improving fitness for adults with ID. The 6-minute Walk Test (6MWT) was used to determine cardiovascular fitness. The Standing Long Jump (SLJ) was used to measure muscular fitness.

The 6MWT is a measurement that has been used in several studies focused on physical activity and people with ID. The study by Guerra-Balic et al. (2015) evaluated the reliability and validity of using the 6MWT on adults and seniors with ID. Validity was evaluated by calculating Pearson's r correlation between the 6-minute walk distance and the VO_2 peak.¹⁹ The intraclass correlation coefficient of 0.96 between two out of three tests indicates high reliability.¹⁹ Relative VO_2 peak, along with the isometric leg strength, contributed to the 6-minute walk distance. Therefore, the findings showed the 6MWT is a valid, inexpensive, and simple way to test mobility and submaximal exercise performance, as well as aerobic endurance and functional ability for many populations, including those with ID.¹⁹

The standing long jump (SLJ) is a commonly used test to measure and compare strength and conditioning to determine athletic potential.¹⁹ It is a horizontal jumping field test that is uncomplicated and does not require special equipment. Its reliability is well documented.

Participants

Participants were recruited from the clientele of a center for independent living, which serves adults with ID. Clients from two of the three buildings volunteered. Since adults were the target age group for this project, the criteria for inclusion were that clients must be 18 years of age and have an intellectual disability. They had to be ambulatory and be able to follow simple directions, have no physical limitations, health issues, or behaviors preventing them from fully participating in the hour-long exercise sessions, and were not currently enrolled in a formal exercise program. Additionally, their participation was voluntary, and the project was explained to them. Considering this vulnerable population, the DNP Project Leader also contacted the participants' parents, guardians, and/or caregivers of those with higher levels of parental/caregiver involvement due to lower cognitive ability. This was completed by telephone to make the parent/caregiver aware of the project in full detail. Other participants were quite independent and had higher cognitive abilities to understand the purpose and activities of the project, which allowed them to make autonomous decisions regarding participation. Finally, the participants needed to attend 80% of the exercise sessions (10 out of 12 sessions) for their participation to be included in this project.

In all, 12 participants were recruited for this project. Participants were placed in the following groups: six participants in Group A (one building at the center), four participants in Group B (a second building at the center), and three participants in Group C (an all-virtual group).

Measurements

The participants met face-to-face with the DNP Project Leader on two occasions for data collection: once before the program implementation and once after the program ended. Demographics and baseline measurements were collected at the first meeting, while post-program measurements were collected at the second meeting. COVID-19 pandemic precautions were maintained per the current recommendations during these meetings.

Baseline Demographics

The DNP project was again fully explained to the participants at the first meeting. Each participant was interviewed to collect baseline demographic data such as age, race, and sex. Their ID diagnosis was identified if it was known. Additionally, health restrictions or behavioral issues were identified, as well as having access to technology, such as a computer/tablet and the internet.

Access to technology and demographic data were collected using a questionnaire. If the participants met inclusion criteria, a yoga mat and two colorful dance scarves were given to them to be used during the exercise sessions.

Pre-Program Fitness Levels

In addition to demographic data, baseline fitness data were collected. Height in feet/inches using a stadiometer, and weight in pounds using a beam scale were measured to determine BMI for the pre-exercise program measurement. Additionally, the standing long jump (SLJ) was measured in feet/inches, as well as the distance traveled in the 6 Minute Walk Test (6MWT). The corridors in each of the center for independent living buildings were measured in feet/inches. Measurements for the SLJ and the 6MWT, followed the procedure for these techniques as outlined in the

Martinez-Aldao et al. (2019) study.³ For the SLJ, the participants stood behind a horizontal line and then jumped as far as possible, taking off with both feet. The participants were allowed to bend their knees and swing their arms to build momentum. If they fell backward on their hands during or after landing or did not take off and land with both feet, that jump would not count and a second jump was allowed.

For the 6MWT, the corridors in each building were measured. Each participant walked the corridor for six minutes and the distance traveled was measured in feet. For two participants, a staff member stood at one end of the hallway and the DNP Project Leader stood at the other end to cue the participants to turn and continue walking. All participants were given verbal motivation to cheer them on throughout the test. Upbeat music was also played during the 6MWT as a motivator.

Before taking the actual measurements, participants were permitted to have a practice run through of each measurement so they would be familiar with the processes. They walked one lap in the corridor and had one practice jump. The DNP Project Leader remained with the participants and gave instructions during the practice session. Participants had a rest break before the actual tests were measured. Throughout all measurements, the participants received verbal motivation to complete the measurements. For this project, the SLJ measurements determined pre-program muscle fitness, and the 6MWT distance determined pre-program cardiovascular fitness. Height and weight determined pre-program BMI.

Post-Program Measurements

During the week following the completion of the program, each participant met at the center's location that was most convenient for them at a specified appointment time. Pandemic precautions recommended at that time were followed for these face-to-face meetings. Post-program measurements for BMI, SLJ distance, and 6MWT distance were obtained using the same process as the pre-program measurements. From these data, differences in pre-program and post-program measurements were analyzed to determine the effectiveness of this exercise program on the participants' muscular and cardiovascular fitness, and its effect on BMI. A certificate of completion was distributed to each participant at the post-program measurement appointment. The participants who completed the program were able to keep their yoga mats and dance scarves they used throughout the program.

Since the participants were not currently enrolled in a formal exercise program, and no other lifestyle changes, such as diet, were being implemented, any positive outcomes could be attributed to increased physical activity through this exercise/dance program. Additionally, upon post-program measurements, an increase in SLJ distance would show improved muscular fitness and an increase in the 6MWT would show improvement in cardiovascular fitness.

The Exercise/Dance Program

This program had adults with ID participate in one-hour exercise/dance sessions virtually two times a week for six weeks. Text messages and/or Facebook Messenger messages were sent to the participants or their caregivers before the sessions as reminders to join the session. Some participants joined from home, and some participants joined from their respective center locations during their small group programming. Due to the virtual nature of this program, participants were able to join the sessions from home or a location convenient for them via a computer or tablet.

The exercise/dance videos set to Bollywood music were created by a certified yoga instructor who was also a Bollywood dance instructor. One video was shown each week, with each week building on basic moves to include various yoga poses and more complex dance choreography as the program progressed. The one-hour sessions had a warm-up period with yoga, moderate-vigorous activity with dancing, and a cool-down period with more yoga. The DNP Project Leader joined in many of the sessions by role modeling the activity, as well as monitoring the participants and giving verbal cues regarding technique. Verbal motivation was given throughout the sessions toward each group as a whole and to each individual.

Group A, which met weekly at one of the center's buildings for their peer support meeting, participated together at the center on Tuesday evenings. They wore masks and maintained social distancing. At least two supervising adults from the center were present to monitor the group as they participated in the virtual session. The DNP Project Leader attended each of their Tuesday night peer support group meetings and presented the video directly from the YouTube link accessed on her cellular phone, which was then projected onto the large screen television. These participants joined their second session of the week virtually via Zoom from their homes or a convenient location for them.

Group B participated in the project together as a small group via Zoom during their regular programming times at the center's other building, with another participant joining this group from home. The DNP Project Leader interacted with these participants virtually, while the center's staff accessed the session to view on the large screen television and supervised and motivated the small group in person.

The all-virtual group met over Zoom from their homes or a convenient location for them. Two of the three participants met together at one of their homes as the third joined from her home. This group had either parent or caregiver support to assist them in accessing the sessions and motivating them to participate in the sessions. Two of the three participants' mothers joined in the sessions to motivate their adult children through role modeling.

Participants from each of these groups were offered make-up sessions if they could not attend with their respective groups (i.e. participants had conflicts such as inconsistent work schedules, doctor appointments, or other obligations). These makeup sessions were either individual sessions or completed by having the participant join in via Zoom during another group's virtual session. The sessions gave each participant approximately 120 minutes, or 80%, of the Centers for Disease Control and Prevention (2020b) recommended 150 minutes of moderate- to vigorous-intensity physical activity each week.

t-Test

Once the pre-program and post-program measurements for BMI, SLJ, and 6MWT were collected, data were analyzed using the IBM SPSS Statistics software. Reports were generated to compare findings between the pre-program and post-program measurements using a two-sample t-test. The Confidence Interval for the mean was 95%. Because of the small number of participants, correlation and significance could not be computed.

Results

After attrition, a total of nine participants completed the program. Of the remaining nine participants, seven completed all 12 sessions, one completed 11 sessions, and one completed 10

sessions. Therefore, all participants who completed the program attended at least 80% of the sessions, which was a requirement for the project.

Of the remaining nine participants who completed the program, three were female (33.3%), and six were male (66.7%). Two of the females were from the all-virtual group. One female was from Group B. Of the six males, one was from the all-virtual group, three from Group A, one from Group B, and one joined from home with the Group B sessions. This yielded three participants from each group. See Table 1 for participants by Group.

Demographics according to race revealed all three females identified as Caucasian. Four of the males identified as Caucasian; one identified as African American; and one identified as being mixed race (Hispanic and African American). Their ages ranged from 18 to 41 years old.

There was a mixture of participants' ID diagnoses noted. Five participants (55.6%) were identified as having Autism Spectrum Disorder (ASD). All five with ASD were male. One female had Down syndrome (11.1%). One female participant's diagnosis was in the category of "Other" (11.1%), which was identified by the parent as having a communication disability. One male and one female reported their disability was unknown (22.2%).

All Participants

BMI

Table 1 indicates all participants' BMI, SLJ, and 6MWT. A comparison was generated of all the participants' BMI measurements. The mean pre-program BMI was 30.24, and the mean post-program BMI was 30.44. The standard deviation was 6.96 for pre-program BMI and 7.26 for post-program BMI. The change in BMI means was an increase of 0.2. The change in means showed an increase in score by 0.66%.

SLJ

The SLJ distances were compared for all participants. The mean pre-program SLJ distance was 37.78 inches with a standard deviation of 17.87. The post-program mean was 43.22 with a standard deviation of 17.35. Thus, the change in pre-program and post-program SLJ distance means for all participants increased by 5.44 inches. The change in means showed an increase of 14.40%.

6MWT

The 6MWT distances were compared for all participants. The mean pre-program 6MWT distance was 1468.72 feet with a standard deviation of 200.99. The post-program mean was 1584.61 feet with a standard deviation of 157.97. The change in pre/post SLJ distance means for all participants was an increase of 115.89 feet. The change in means was 7.89%. See Table 2 for all participants for BMI, SLJ, and 6MWT.

Table 1. BMI, SLJ, and 6MWT for All Participants

Paired Samples Test	Paired Differences Mean	Std. Deviation	Std. Error	95% Confidence Interval		Interval of the Difference		
				Lower	Upper	t	df	Sig.

Pair 1	Pre-Program BMI – Post-Program BMI	-0.2	0.045552	0.15184	-	0.15014	-	8	0.224
Pair 2	Pre-Program SLJ – Post-Program SLJ	-5.4444	6.6776	2.22587	-	-	-	8	0.04
Pair 3	Pre-Program 6MWT – Post-Program 6MWT	-115.89	87.02901	29.00967	-	-	-	8	0.004
					0.55014	10.5773	182.785	48.9925	3.995
						0.31159		2.446	

Table 2. represents the change in the mean by percentage for all participants as described above.

Table 2. Change in Mean by Percentage for All Participants

Variable	Pre		Post		Sig.	% Chg
	Mean	SD	Mean	SD		
BMI	30.24	6.96	30.44	7.26	0.224	0.66%
SLJ	37.78	17.87	43.22	17.35	0.040	14.40%
6MWT	1468.72	200.99	1584.61	157.97	0.004	7.89%

Discussion

The adult participants with ID in this DNP project participated in the exercise/dance session without injury or adverse events. This was consistent with what was found in the literature.^{16,20} Improvement in cardiovascular and muscular fitness was found in most participants, also consistent with the literature.^{5,14,21} Weight loss was not found in most participants, which aligned with the findings of the systematic review by Bouzas et al. (2019).⁵ One participant from Group A had negative scores in all three areas. It was not revealed until after the completion of the post-program measurements that the participant had walked over a mile to the center for this appointment. Fatigue may have played a part in this participant's worsening scores for SLJ and the 6MWT.

Other observations were noted during the project. The participants enjoyed both the yoga and Bollywood dance components. They expressed they had fun and found the music lively. Through the text and Facebook messenger reminders, communication from the participants was positive, and they expressed excitement for the sessions. All participants who completed the program had at least an 80% attendance rate. This is consistent with Bouzas et al. (2019) finding exercise with workout music was effective for improving adherence.⁵

The participants easily joined the Zoom sessions, either independently or with the assistance of staff or parents. Consistent with Ptomey et al. (2017), using a virtual platform was feasible in delivering the yoga/dance session to the participants.²² This platform eliminated the need for transportation for these participants, which was identified as a barrier.¹ Involving supporters, such as parents, paid staff, and the DNP Project Leader, ensured the participants joined the

sessions and received encouragement throughout the program. Roll (2018) regarded supporters as a critical role in the attribute of health promotion for people with ID.¹ The supporters were effective in motivating the participants to remain focused and active during each of the sessions.

Roll describes one result of health promotion for those with ID as having an improved quality of life.¹ For example, one participant stated he had nothing to do during the pandemic. He was not enrolled in any program, and most activities were closed due to the pandemic restrictions. However, he consistently commented on how much he liked the program, and he did not want to see it end. Bringing a fun exercise program through Zoom allowed him to not only become physically active but allowed him to socialize with the other participants in attendance. Further, when the certificates of completion at the end of the program were distributed, the participants were extremely grateful and proud of their accomplishments, with one participant tearing up with joy. Because of the positive results and participant satisfaction of this project, the DNP Project Leader reported these findings to the center's Executive Director and Board of Directors. The Project Leader recommended continued physical activity opportunities as a permanent offering of the center. The center's leadership agreed.

Limitations

This project had some limitations. First, there was a small number of participants from one center for independent living. This impacts the ability to run statistics for correlation and significance. A larger group would have made data analysis more impactful. Additional participants may have been drawn if there was more widespread advertising beyond the convenience of this center's clients. Next, only younger adults with ID participated in this project. The ages ranged from 18 to 41 years old. Findings might have been different if older adults were factored into the data. In addition, due to the imbalance of the number of females (n 3) compared to males (n 6), the data on gender may not be equitable. Further, the participants needed to be fully ambulatory and able to follow simple directions. Those with more profound cognitive and/or physical disabilities were not included in this project. Therefore, findings may not represent all people with ID. Finally, the Covid-19 pandemic may have impacted the project. Although using a virtual platform was successful for this project, not all people have access to technology or reliable internet service. Holding the sessions virtually may have limited those who were not technologically knowledgeable or had poor internet service as barriers to joining the sessions.

Conclusion

Physical activity is vital to the health and well-being of adults with ID. Promoting and supporting physical fitness in this population will improve modifiable risk factors that impact premature chronic illness and mortality. Legislators are recognizing this population's challenges and are introducing bills to support health equity and transportation for people with disabilities so they can get better access to care. The National Institute on Minority Health and Health Disparities (2023) designated people with disabilities as those with health disparities and supported research for this population.²³ It is crucial to promote and assist people with ID to exercise as a preventative measure for health and fitness. Pursuing legislation may be a necessary avenue for advocacy to gain the services and support adults with ID need to maintain their health. Some programs have been implemented, such as the collaboration with the CDC, the National Center on Birth Defects and Developmental Disabilities, the National Association of Chronic Disease

Directors, and the National Center on Health Physical Activity and Disability. They have implemented a national pilot called Reaching People with Disabilities through Healthy Communities.²⁴ Using an Inclusive Healthy Communities Model, the collaborative focuses on policy, systems and environmental changes to promote healthy living for those with disabilities, including physical activity. Examples of these changes include the Inclusivity Policy by the Lerner Center in Syracuse, New York providing inclusive walking routes. In Oregon, the Bergen County Health Department, Corvallis Public Works, and civil engineering graduate students combined efforts to make the downtown area more accessible for those with disabilities using curb cuts, accessible parking spots, and improved crosswalks.²⁵ This would allow them to more easily access the fitness centers and other downtown activities. Gaining support at the state and federal levels for improved accessibility and quality programming tailored to the needs of those with ID will give the opportunity for this population to care for their health.

With support, the participants enjoyed participating in this DNP project. In six short weeks, these participants exhibited positive change in their cardiovascular and muscular fitness with only two exercise/dance sessions per week. This supports the evidence in the literature that those with ID can participate in exercise and gain health benefits from it. Through consistent participation, weight loss could have also been a benefit for some, in addition to developing the healthy habit of incorporating exercise into daily life. This vulnerable population needs assistance and motivation from others to engage in physical activity. More awareness, training, and inclusion are needed to support those with ID and their health needs. With the clients' interest in this project, exercise using music is being sustained as a permanent part of the center's programming at least two to three days per week. In addition, walking and yoga programs have been implemented at the center to offer a variety of physical activities. This population needs more programs to provide enjoyable physical activity opportunities for those with ID to improve their fitness levels. Consequently, improving fitness will decrease the modifiable risk factors for chronic disease. Jacob et al. (2023) found physical activity had a moderate to strong positive impact on those with ID.²⁶ In particular, they noted an improvement in sedentary lifestyle, weight loss, and quality of life.

As for health care providers, health care visits to primary care practices are a perfect time to discuss activity levels and interests with people with ID. This lends an opportunity to assess physical fitness needs, educate the patient and caregiver on the benefits of exercise, and recommend programs and activities the person may enjoy. Studies show that people with ID are more apt to participate and complete a task when the environment and activity are enjoyable. Healthcare professionals need to take a person-centered approach when educating and making recommendations for exercise to those with ID and their caregivers. By doing so, individuals with ID can experience improved fitness and quality of life by preventing chronic disease and early morbidity and mortality.

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